Harding Lawson Associates
1325 Fourth Avenue, Suite 1800
Seattle, WA 98101
(206) 622-0812
(206) 292-8819 telecopy

CHAIN OF CUSTODY FORM

Lab: SPECTRA LAB

Samplers: DON J. BACHE

Job Number: 22789.1

Name/Location: P. & T.

Project Manager: MARK WINTERS

Recorder: Don J. Bache (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr Wk Seq	DATE: Yr Mo Dy Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	PCB (Lab Only)	TOTAL METALS (As, Cu, Pb, Hg, Zn)
42		X			1			IY0997300 5	930928 1130								X	X
42		X			1			IY0997300 4	930928 1150								X	X
42		X			1			IY0997301 1	930928 1210								X	X
42		X			1			IY0997301 0	930928 1240								X	X
42		X			1			IY0997300 2	930928 1250								X	X
42		X			1			IY0997301 8	930928 1445								X	X
42		X			1			IY0997304 0	930928 1500	A. HOLD TILL FURTHER NOTICE							X	X
42		X			1			IY0997301 7	930928 1000								X	X
42		X			1			IY09973	930928								X	X
42		X			1			IY09973	930928								X	X

LAB NUMBER: Yr Wk Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
				NEED TWO WEEK TAT
				HOLD REMAINING SAMPLE
				TILL FURTHER NOTICE
				BILL TO: W.O.# E-1383
				SEND COPIES OF REPORT TO
				SUZANNE RADZIAK
				PORT OF TACOMA
				P.O. BOX 1837
				TACOMA, WA. 98401

CHAIN OF CUSTODY RECORD

	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature) Don J. Bache		
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME 9/28/93 4:05
METHOD OF SHIPMENT		

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

Harding Lawson Associates
1325 Fourth Avenue, Suite 1800
Seattle, WA 98101
(206) 622-0812
(206) 292-8619 Telecopy

CHAIN OF CUSTODY FORM

Lab: SPECTRA LABS

Samplers: DON T. BACHE

Job Number: 22739.1

Name/Location: Pat T

Project Manager: MARK WEATHERL

Recorder: Don T. Bache (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	SAMPLE NUMBER OR LAB NUMBER: Yr Wk Seq	DATE: Yr Mo Dy Time	STATION DESCRIPTION/ NOTES
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42		X			1			IY0993276	930927 1135	
42		X			1			IY0993305	930927 1200	
42		X			1			IY0993255	930927 1210	
42		X			1			IY0993313	930927 1235	
42		X			1			IY0993243	930927 1250	
42		X			1			IY0993212	930927 1310	
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42		X			1			IY0993232	930927 1320	
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ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	PCB (8090)	TOTAL METALS (As, Cu, Pb, Hg, Zn)
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X
						X	X

LAB NUMBER: Yr Wk Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
				NEED TURNAROUND T.A.T.
				HOLD REMAINING SAMPLE
				TELL PHATHEA WITECE
				BILL TO: W.O.# E-1383
				SEND COPIES OF REPORT TO
				SUZANNE DURTEAK
				PORT OF TACOMA
				P.O BOX 1837
				TACOMA, WA. 98401

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature) Don T. Bache	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
METHOD OF SHIPMENT		

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

Harding Lawson Associates
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CHAIN OF CUSTODY FORM

Lab: SPECTRA LABS

Samplers: DON J. BACHE

Job Number: 22789.1

Name/Location: PoT T.

Project Manager: MARK WINTERS

Recorder: Don J. Bache (Signature Required)

Source Code	Matrix: Water	Matrix: Sediment	Matrix: Soil	Matrix: Oil	#Containers & Preserv.: Unpres.	H_2SO_4	HNO_3	Sample Number or Lab Number (~~Yr~~ ~~Wk~~ ~~Seq~~)	Date: Yr	Mo	Dy	Time	Station Description/Notes	EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	ICP METALS	EPA 8015M/TPH	PCB (8080)	TOTAL METAL (As, Cu, Pb, Hg, Zn)
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42		X			1			IY099314	93	09	27	1515								X	X
42		X			1			IY099316	93	09	28	0940								X	X
42		X			1			IY099313	93	09	28	1015								X	X
42		X			1			IY099312	93	09	28	1030								X	X
42		X			1			IY099308	93	09	28	1055								X	X
42		X			1			IY099307	93	09	28	1110								X	X
42		X			1			IY099306	93	09	28	1120								X	X

Lab Number: Yr	Wk	Seq	Depth in Feet	Col Mtd CD	QA Code	Miscellaneous
						NEED TWO WEEK T.A.T
						HOLD REMAINING SAMPLE
						TILL FURTHER NOTICE
						BILL TO: W.O.# E-1383
						SEND COPIES OF REPORT TO
						SUZANNE DUDZIAK
						PORT OF TACOMA
						P.O. BOX 1837
						TACOMA, WA. 98401

CHAIN OF CUSTODY RECORD

Relinquished By: (Signature)	Received By: (Signature)	Date/Time
Don J. Bache		

Dispatched By: (Signature)	Date/Time	Received For Lab By: (Signature)	Date/Time
		[illegible signature]	9-28 4:00

METHOD OF SHIPMENT

Laboratory Copy White | Project Office Copy Yellow | Field or Office Copy Pink

6533

THE SHIPBREAKERS

Scrapping ships, sacrificing men

Salvage: As the Navy sells off obsolete warships at the end of the Cold War, a little-known industry has grown in America's depressed ports. And where the shipbreaking industry goes, pollution and injured workers are left in its wake.

Dirty work: A worker in Baltimore cuts up the aircraft carrier USS Coral Sea. Like those who built the nation's warships years ago, the men now tearing them apart are being exposed to asbestos, which can cause lethal diseases. (photo by Perry Thorsvik : Sun Staff)

By Will Englund and Gary Cohn
Sun Staff

First in a series

Raul Mendoza knew that scrapping ships was dangerous, knew about the smoke and the fumes and the accidents. He'd worked in Baltimore, where asbestos clouded the air, and North Carolina, where oil spilled into a river, and California, where workers were told to lie to government inspectors.

But he needed a job. So, on Dec. 22, 1995, in Brownsville, Texas, he climbed into the hold of the USS Yukon, an old Navy tanker. Working in total darkness without safety equipment, he walked across a girder. Then came the scream.

Vessel's last voyage ends on Indian sands
Beaching: An obsolete Russian freighter bearing gifts glides out of the night to end its days on the beach at Alang.

Mendoza had fallen 30 feet into a tank, straddling a cross beam in a blow that split his pelvis. He flipped off the beam and landed on his chest. He was pleading for help. Untrained in shipboard emergencies, rescuers took three hours to extract him. By Christmas Eve, he was dead.

Raul Mendoza is just one of the casualties of a little-known industry called shipbreaking. Spurred by the Navy's sell-off of obsolete warships at the end of the Cold War, the business has grown up overnight in some of America's most economically depressed ports. And almost everywhere the industry has arrived, harm to human health and the environment has followed.

A yearlong investigation by The Sun has found:

• Workers have been toiling in air thick with asbestos dust. In Baltimore, laborers scrapping the USS Coral Sea ripped asbestos insulation from the aircraft carrier with their bare hands. At times they had no respirators, standard equipment for asbestos work. Inhaling asbestos fibers can have slow but lethal consequences, as men who built the ships now being torn apart have learned. Tens of thousands of former shipyard workers in Baltimore and elsewhere have died of asbestos-caused diseases.

• Mishandling of asbestos has been covered up. In Terminal Island, Calif., 20 laborers were fired when they told federal investigators how asbestos was being improperly stripped from Navy ships. In Baltimore, workers were ordered to stuff asbestos into a leaky barge to hide it from inspectors.

• Laborers with little training, supervision or equipment have been killed or maimed. Like Raul Mendoza, workers have been victimized in falls, explosions and accidents that could have been prevented.

• Dangerous substances from scrapped ships have polluted harbors, rivers and shorelines. A scrapyard along the Northeast Cape Fear River in Wilmington, N.C., was contaminated by asbestos, oil and lead. "That site looked like one of Dante's levels of hell," says David Heeter, a North Carolina assistant attorney general.

Ship scrappers frustrate regulators by constructing a maze of corporate names and moving frequently. The Defense Department has repeatedly sent ships to scrappers who have records of

Widow: When Raul Mendoza died after a

bankruptcies, fraud, payoffs to government inspectors, and environmental and safety violations.

Widow: When Raul Mendoza died after a shipyard accident in Brownsville, Texas, he left his wife, Oralia, three children and medical bills of more than $40,000. (photo by Perry Thorsvik : Sun Staff)

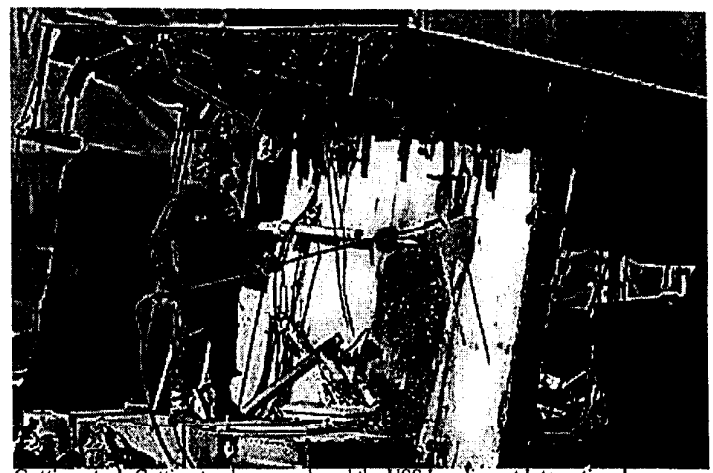
The Navy and the Defense Department make no serious effort to oversee the scrapping, even though the Navy retains ownership of the vessels. Until recently, only one inspector with little training and experience kept watch on scrapping operations for the entire country. Concerned about his safety, he refused to board the Coral Sea on one visit; the next day, a deck plate collapsed under a worker, leaving him maimed.

Cutting corners

Workers, mostly Mexicans, often have to pay kickbacks to get their jobs and are sometimes cheated of their pay. Unable to speak English or read warning signs, they have no one to turn to with complaints. "They look for us first because we don't know the law," says Juan Chavez. "If the boss or foreman says you have to do something, what can we do?"

Now, the problems threaten to get worse as the Navy and its sales agency, the Defense Reutilization and Marketing Service, accelerate the scrapping program, with 111 vessels designated for breakup.

The Navy's downsizing promised to be a bonanza for the dozen or so shipbreakers who have opened yards since 1991. For amounts ranging from about $15,000 for a destroyer to more than $1 million for an aircraft carrier, they buy the rights to Navy ships, then sell the salvaged metal. They run lean operations, and their pattern of cutting corners to ensure a profit has often proven disastrous.



Cutting steel: Cutting torches roar aboard the USS Iwo Jima at International Shipbreaking Ltd. in Brownsville, Texas, where two men were killed within a year.

The men often work in darkness and suffocating heat as they cut steel for scrap. (photo by Perry Thorsvik : Sun Staff)

Because of environmental violations and other issues, the Navy has had to take back 20 ships from yards in North Carolina, Rhode Island and California in the past 14 months. Of 58 ships sold for scrapping since 1991, only 28 have been finished.

"You've had problem after problem," says David Peck, a Richmond shipbreaker who is one of the few voices calling for reform. "How many fatalities and environmental disasters do you have to have?"

Faced with a scrapping program that clearly has been a failure, the Navy has yet to find a satisfactory solution. It could break up its old ships in Navy yards, as it does with nuclear vessels. It could ask Congress to subsidize the scrapping so that reputable private companies would dismantle them properly.

But what the Navy appears most likely to do is send its ships to South Asia. In recent years, the global shipbreaking business has migrated to India, Pakistan and Bangladesh, where labor is cheap and regulation virtually nonexistent.

While American scrapyards employ hundreds of workers and primarily dismantle U.S. Navy ships, tens of thousands labor in the industry in South Asia, breaking up everything from Russian destroyers to Greek freighters to Japanese tankers.

In Alang, India, the world's busiest scrapping site, 35,000 workers tear ships apart on a beach under conditions far worse than any seen in the United States. Deaths or crippling accidents are everyday occurrences. The sea is foul with asbestos, oil, toxins and human waste. Workers live in makeshift huts in a colony rife with disease.

Until now, U.S. naval vessels have been dismantled at home to ensure that dangerous materials are handled properly, that warships not fall into the wrong hands, and that ships on which American servicemen fought and died be treated with dignity. But recently that policy was quietly dropped.

Even though the Navy would risk criticism for exporting its ships laden with hazards to the Third World, the move would generate more revenue because of the higher prices South Asian yards pay for old ships. And, perhaps more important, it would allow the Navy to send its scrapping problems far away from American ports.

Along the Texas border

The Texas border town of Brownsville, convenient to

Mexican steel mills and Mexican labor, is the nation's shipbreaking center. On the Rio Grande, Brownsville is a transit point for drugs and laundered cash as well as men and steel. Young men coming out of the Mexican countryside, desperate for any kind of job, settle in the "colonias" in the dry flatlands by the port. Over the past quarter-century, more than a dozen scrapyards have come and gone.

Santiago Martinez, now 64, remembers the first day he showed up at a scrapping company called Transforma. The boss handed him a hard hat and some shoes (the cost of which was deducted from his pay) and told him to get to work.

The boss, Martinez said, explained the job this way: "He told me, 'Give me a piece of the ship. Cut it.'"

It's hot work in one of the hottest places in the country. The cuttingtorches burn with a sort of back-of-the-throat roar. Swinging cranes lift large pieces of deckhouse off the ships. Sparks fly where steel is being burned, and an acrid, choking smoke billows up when a torch sets off insulation or oil or something else flammable. The men on board ships work at times in near-total darkness and suffocating heat.

"You'd go home you'd cough and your whole chest was hurting all the time," said Jorge Corpus, 22. "You'd blow your nose and black stuff would come out from all the smoke you'd be inhaling all day long."

If the building of a ship is a case study in planning and precise execution, shipbreaking is just the opposite.

Ships are slashed and burned as workers cut out metal to be resold as scrap; eventually, they are hacked down to the keel. Smoke-stained junk is strewn everywhere.

On board, workers find pipes and boilers shrouded with asbestos. PCBs, linked to cancer, are in everything from electrical insulation to ventilation gaskets to fluorescent lights. Lead-based paint covers the hull plates. Toxic chromates slosh around in ballast tanks.

"This is a dirty industry, you know," said Emilio Sanchez, a longtime buyer of government ships. "It's not an ice cream factory."

It's dangerous, too. The experience of one yard, International Shipbreaking Ltd. in Brownsville, illustrates the hazards of shipbreaking. Two men were killed there within a year.

To the bare bones: Workers stripping the helicopter carrier USS Iwo Jima (shown in an aerial view) found pipes and boilers shrouded with asbestos, lead paint on the hull and toxic chromates in ballast tanks. (photo by Perry Thorsvik : Sun Staff)

In December 1995, Raul Mendoza got work at International after stints in Baltimore, Wilmington, N.C., and California.

A slight but muscular man with a dark mustache, he didn't like the dangerous work. But he had a family to support in Brownsville, and his parents in Matamoros, Mexico, needed help, too.

Mendoza's family said that he was hired at $250 a week, but had to pay a weekly $50 "mordida," or kickback, to Guadalupe Casanova, the yard superintendent.

Right after reporting to work on Dec. 22, 1995, Mendoza and his foreman, Appolonio Lucio, went below deck, into the bow of the USS Yukon, a tanker that had been used for refueling warships at sea. A compartment by the bow needed to be drained of water.

Neither man was wearing a safety harness, though harnesses were available. They decided to cut a hole in the compartment so the water could drain into one of the ship's 30-foot-tall tanks. It was cramped and dark. Mendoza adjusted his torch so the flame would burn yellow and cast more light.

He made some cuts, but the water drained slowly. He decided to walk across a beam to the other side of the tank, to make another cut.

Lucio said later that there was no need to rush; while the two men were waiting, they could have burned cables a reference to the illegal practice of burning the PCB insulation off copper cables.

But Mendoza wanted to get the job done. He walked across the beam, into the dark and out of sight.

"All I heard was a scream," said Lucio.

Mendoza's fall fractured his pelvis, severely cut his leg, and caused internal bleeding; he died two days later. The 43-year-old laborer left a wife and three children. His sister, Irma Zapata, is bitter about the accident and thinks her brother's employers were negligent.

"We came over here because we thought we'd be more protected in the States, and look what happens," she said. "There's no protection for the workers. Nobody's paying attention to the rules and regulations."

Casanova is the man primarily responsible for safety at International. While declining to talk about the accident, Casanova did say that he'd never sought or received kickbacks from anyone. One day, nearly a year after Mendoza's death, he talked about his commitment to safe work practices.

Wearing a hard hat with the logo "SAFETY FIRST" on it, Casanova said, "I am very tough. I demand too much especially in safety. Safety in any place must be the first thing."

Four days after that interview, Maximino Chavez was killed while walking across the International yard. Chavez, 58, was a laborer, an energetic man who was always looking for something to do. Among the men in Brownsville, everyone has a nickname; just as Casanova is universally known as the Avocado (because he used to be overweight and has dark skin), Chavez was called el Marrancro, the Hog Man, because he raised pigs.

On Dec. 11, 1996, the day of the accident, a compartment of the USS Iwo Jima had been lifted off the deck of the helicopter carrier and was sitting in the yard. A cutter was slicing off a bulkhead. It fell just as Chavez was walking by, striking him across the back and throwing him to the ground.

"When you're working, you have to pay attention and let your partner know what you're doing," said Trinidad Becerra, who witnessed the accident. "The foreman has to have somebody watching all the time, because it is very dangerous."

It would be useless to simply shout a warning, like a lumberjack, he said. "There's so much noise around, you wouldn't hear it. That's why somebody has to be watching."

But Chavez wasn't paying attention; neither was anyone else.

Word came the next morning that Chavez had died in the hospital, leaving behind his wife and 13 children. Casanova gathered the men, told them the funeral would

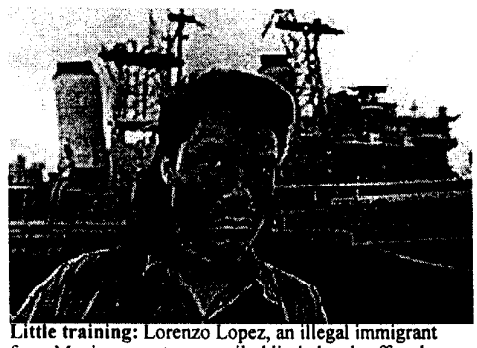
be the next day at St. Eugenio's. He said that they had to look after each other, Becerra recounted. "You take care of your partner and your partner takes care of you. In there you cannot fool around, because you will regret it later."

There was a moment of silence, and then they went back to work.

Failure to heed worker safety standards has been a problem at most of the 17 scrapyards doing Navy work since 1991. Pressure to work fast is constant owners only make money when they have cut steel to sell and everyone from laborers to crew chiefs to scrapyard owners takes shortcuts.

In Baltimore, torch handlers worked without other men on fire watch and without fire hoses. In Brownsville, workers burned PCB insulation off electrical cables instead of disposing it in a designated landfill. In Chesapeake, Va., Gerardo Vela fell while working on scaffolding without a safety harness; he died days later. At Quonset Point, R.I., a subcontractor didn't bother to dismantle a 180-foot mast but simply chopped it down like a big tree, sending it crashing.

The failure to take precautions has exacted an environmental toll as well. In San Francisco, a watchdog group accused a scrapyard of trying to save money by leaving toxic chemicals on the ground, where they could leach into the bay. In Wilmington, state officials shut down a yard on the Northeast Cape Fear River after discovering that it was contaminated by asbestos, oil and lead, and that oil had spilled into the river.



Little training: Lorenzo Lopez, an illegal immigrant from Mexico, was temporarily blinded and suffered burns to his neck and chest after a cutting torch ignited vapors aboard ship at Sigma Recycling in Wilmington, N.C. "Just look at me," he says. (photo by Perry Thorsvik : Sun Staff)

The yards waste little time on training. Lorenzo Lopez, an illegal immigrant hired in Wilmington, said: "They didn't explain anything. They told me to look at what the others are doing."

On Oct. 14, 1995, Lopez and another worker were told to cut steel pipes in the engine room of a destroyer, the USS Dewey. A flame from one of their torches ignited vapors that had accumulated overnight in a condenser.

The explosion was felt three miles away.

Lopez was knocked down. He was temporarily blinded,

broke his leg, and burned so badly he spent six weeks in a hospital burn center. His eyesight was permanently damaged and he was disfigured.

"My eyes bother me," Lopez said. "I have problems with my legs. They hurt. I can read a little. ... If a friend asks me about taking the job I am going to answer, 'Don't take it. Just look at me.'"

A soft-spoken 28-year-old who doesn't speak English, Lopez came to this country from Guanajuato, Mexico, in search of opportunity, picking oranges, apples, and tobacco across the Southeast before finding work in the shipbreaking yard. Before the accident, he said, he would send $1,000 home so that he might someday be able to return to a better life. Now, unable to work, he has few prospects.

The Occupational Safety and Health Administration cited the yard for safety violations. The company failed to have an experienced employee check that no gases were present before any cutting began.

Lopez's was the second serious accident at the North Carolina yard in less than a year. On Feb. 24, 1995, worker Daniel Contreras was killed when a piece of metal flew out of a pipe-splitting machine and tore through his skull. OSHA determined that the accident could have been prevented if the machine, called an alligator shear, had the required safety guards. Like most efforts to enforce safety and environmental laws in the shipbreaking industry, the OSHA actions were taken only after the harm was done.

A common enemy

The ships now being torn apart at yards around the country were built with pride. Shipbuilding was a solid trade back then, and it paid well. The men who built the ships of the U.S. Navy men like Charles Fort of Dundalk and William Hooper of White Marsh had the satisfaction of doing a job right, of contributing to the nation's defense and of bringing home to their eastern Baltimore County communities a regular pay envelope.

Their lives could hardly be more different from those of men like Fermin Castillo, who today break apart Navy ships. Separated by time, culture and circumstances, they are linked by a common enemy: asbestos.

"Picture yourself going out in the morning and it's just starting to snow," recalled Hooper of his years building ships. "We're down below welding. This damn stuff was flying around like snow."

That was at Maryland Drydock. Across the harbor at Bethlehem Steel's shipbuilding division, Fort's experience

was the same. "Everything was covered with a white dust, from the top of the engine room to the bottom," he said.

Even when Hooper, now 77, and Fort, 75, were young men, asbestos manufacturers and the Navy knew the material used for insulation and fireproofing could cause fatal lung diseases, but they kept that knowledge a secret, according to court records and congressional hearings. Because of concerns about disrupting the war effort during the 1940s, the Navy did little to protect the workers.

"If we tried to do all the things that might have protected these people, we would have gotten no ships built and that seemed to me a more important concern," Dr. Leonard J. Goldwater, a Navy industrial health officer during World War II, said in an asbestos lawsuit.

When inhaled, asbestos can cause diseases that develop decades later. Asbestosis results when scar tissue forms on the lungs, leading to breathing difficulties. Lung cancer is especially common among shipbuilders who also smoked. Mesothelioma is a cancer that attacks the lining surrounding the lungs, the heart and the abdominal organs, and is incurable and fatal.

Despite mounting evidence about its dangers, asbestos continued to be used extensively until the 1970s. The result was that thousands of men around the country died needlessly, many of them becoming ill decades after being exposed. Others, like Fort and Hooper, are sick today. Their misfortunes have been documented in courtrooms across the country, with more than 200,000 claims against asbestos manufacturers either resolved or pending.

Today there are stringent federal standards designed to protect workers from asbestos. The Navy, of course, is painfully aware of the need for such rules. But time and again it has has turned its vessels over to shipbreakers who show contempt for the regulations.

At Terminal Island, Calif., for example, Southwest Recycling Inc. sent employees to asbestos-handling classes, but then ordered them to ignore the procedures to save time, according to OSHA documents. "They (workers) were told to lie to the OSHA investigators if asked about work practices and not tell how it was really being done," a 1993 OSHA memo states.

In Wilmington, N.C., Sigma Recycling failed to train workers in proper asbestos removal methods, supply protective suits or provide medical screening, according to OSHA records. Workers shoveled asbestos debris into storage bins, which is prohibited by federal law, and did not wet down asbestos to limit dust.

In Baltimore, things were even worse. Over the past four

years, the Coral Sea's dismal end has been marked by stubborn fires and dumping of oil into the harbor, by lawsuits and repeated delays but most of all, by the mishandling of asbestos.

Fermin Castillo, recruited from Brownsville to the Seawitch Salvage scrapyard in Baltimore, said he could see asbestos fibers in the air around him while he worked. Castillo watched as men nearby, dressed only in work clothes with no protective gear, stripped asbestos out of the aircraft carrier.

"There was asbestos all around us," he said. "At first they just stacked it on top of the ship. There was always a lot of dust in the air."

Enrique Mora, who worked as a supervisor at the yard in 1993 and 1994, said workers often tore insulation from pipes with their hands. He said he worked for four months before being provided with a respirator and that even then, fresh filters were often not available.

Workers said the only times they could be assured of having adequate protective gear was when inspectors or visitors were coming. "When investigators come, suddenly we get good equipment not gloves with holes," said Dionicio Huerta, a laborer.

Epifanio Rodriguez, 36, said part of his job was to knock a piece of pipe against a wall or bulkhead, so the asbestos would fly off.

Huerta described what happened next. To keep inspectors from finding the pieces of loose asbestos, Huerta said, he was told to stuff it through holes in the deck of a derelict barge. The barge was full of leaks and awash in harbor water.

"Sometimes whole pieces of insulation go into the water," he said. "You're handling all this insulation, and sometimes you inhale it, and then you cough up all this trash."

The mishandling of asbestos was so serious that it led to federal convictions for Seawitch Salvage and its owner, Kerry L. Ellis Sr., last May. Workers testified during the trial that Ellis had repeatedly assured them that they weren't being exposed to asbestos. They were worried, they said, but feared losing their jobs if they complained about the unsafe practices.

"People just do what they're told to do and keep their mouths shut," Huerta, 22, said in an interview.

John King was the same age as Dionicio Huerta when he was first exposed to asbestos while working on the Coral

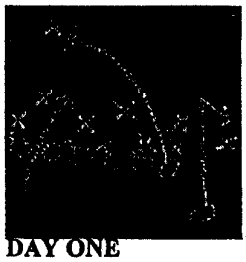
Sea a half-century ago at Newport News Shipbuilding and Dry Dock Co. in Virginia.

He worked as a pipe coverer, putting asbestos on boilers, pipes, air ducts and other hot surfaces for five years. King, now 75 and a widower living in Charlotte, N.C., suffers from asbestosis.

King believes the shipbuilders of his generation were sacrificed, and he's indignant that today's shipbreakers are no better protected.

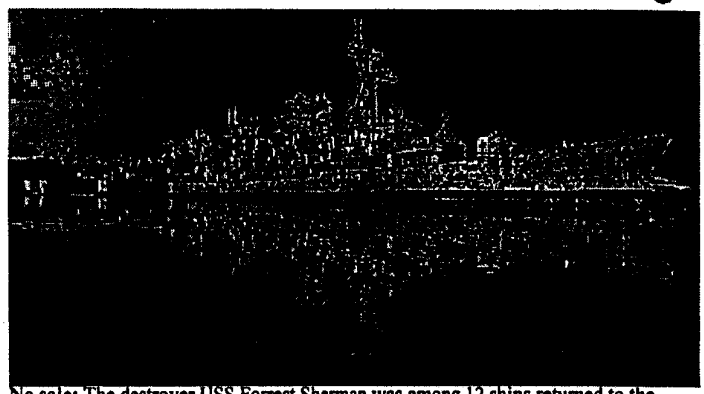
"They should be warning them," King said. "Some subcontractor is hiring people just like I was hired, and dumping them down there to do this nasty work. All they want them to do is hurry and get through with the work. It's the same deal the same deal.

"I'm a common sense man but this just shouldn't have gone on," he said. "We need to get it stopped. It's not right to put people out there and you're killing them."



THE SHIPBREAKERS

The curious captains of a reckless industry



No sale: The destroyer USS Forrest Sherman was among 12 ships returned to the Navy after North Carolina officials closed a Wilmington scrapyard contaminated by asbestos, oil and lead. (photo by Perry Thorsvik : Sun Staff)

By Gary Cohn and Will Englund
Sun Staff

Second in a series

Troubled history: "It's not like we're running around like wild men trying to break the law," says Richard Jaross. But his trail of legal problems is typical of the shipbreakers. (photo by Perry Thorsvik : Sun Staff)

When the U.S. Navy began its great sell-off of surplus ships in 1991, Richard Jaross was among the first to see an opportunity.

He began dismantling Navy ships at a California scrapyard, where workers were exposed to lead and asbestos. He came to Baltimore to help put together the ill-fated Coral Sea project. He then set up a scrapyard in Wilmington, N.C., but the state shut it down for mishandling asbestos, polluting a river and contaminating the soil with oil and lead.

Troubled histories, it turns out, are not uncommon among the shipbreakers to whom the Navy has entrusted its ships. Among the others are:

• Andrew Levy: His company managed a maritime union

Vessel's last voyage ends on Indian sands
Beaching: An obsolete Russian freighter bearing gifts glides out of the night to end its days on the beach at Alang.

retirement plan in the 1980s and lost more than $20 million, according to the U.S. Department of Labor. A federal court permanently barred him from managing private-sector benefit plans. He later became involved in the Coral Sea project and in a scrapping operation that was closed down in Rhode Island.

• Kreso Bezmalinovic: Before he got into shipbreaking, he pleaded guilty to paying off a government inspector. Later, he was convicted on federal fraud charges involving asbestos-abatement companies he controlled.

• Emilio Sanchez: A South Texas businessman with many interests, in 1994 he tried to negotiate in Mexico two stolen U.S. Treasury checks -- each made out to him for $10 million. Never prosecuted, he has bought the scrapping rights to several Navy ships since then.

• Kerry L. Ellis: The owner of a Baltimore company scrapping the Coral Sea, he tried to fool any inspectors who came around. Prosecutors finally caught up with him, leading to his conviction in May for mishandling asbestos and dumping oil and debris into the Patapsco River.

Kerry L. Ellis, owner of a Baltimore scrapping firm, was convicted of mishandling asbestos and dumping debris into the Patapsco River. (Sun Photo 1995

The shipbreaking industry, which involves about a dozen key operators, has left a dismal record of spills, accidents, deaths, lawsuits, bankruptcies and indictments at ports across the country.

"The history of ship scrapping in the United States in the past five years has been terrible in all ways," said E. Grey Lewis, a former Navy general counsel. "The people involved in it are one-night stands. They've been indicted or they've had to flee the area. And, of course, the United States Navy is now on notice that these people are not obeying the law."

The negligence at the scrapyards has been abetted by the Navy's and Defense Department's lack of vigilance. There is virtually no meaningful monitoring of the shipbreaking industry. Prosecutors and regulators from a disjointed network of agencies sometimes have stumbled upon violations at individual scrapyards, but the Defense Department agency that administers the scrapping program has done little to address its failings.

That agency, the Defense Reutilization and Marketing Service (DRMS), said it has raised standards for selecting scrappers. But critics say that is hardly enough.

"They sell a ship ... then all hell breaks loose," said F.

Browne Gregg, whose company participated in a scrapping venture. "They literally lose control of the ship."

'Clearly not in command'

On Sept. 16, 1993, DRMS sent its lone inspector, Tommy Evans, on his first visit to the Seawitch Salvage yard in Baltimore since the arrival of the aircraft carrier USS Coral Sea. But Evans didn't inspect the vessel that day.

He thought it too dangerous.

"I could not get aboard the Coral Sea due to safety reasons," Evans wrote in his report.

Injured: "There was blood coming out of my mouth. I didn't think I was going to live," says Alfio Leonardi Jr., who fell 30 feet through the deck of the Coral Sea. (photo by Perry Thorsvik : Sun Staff)

The next day, a 23-year-old worker named Alfio Leonardi Jr. found out how unsafe the vessel could be. He and Kerry L. Ellis, the scrapyard operator, were walking on the flight deck when Leonardi stepped on a tabletop-size piece of deck plate that had been cut but hadn't fallen. The area wasn't roped off or marked. The plate dropped through and Leonardi fell with it, 30 feet to the hangar deck.

"I felt a burning feeling inside," he recalled. "There was blood coming out of my mouth. I didn't think I was going to live."

Leonardi suffered a ruptured spleen, a fractured pelvis and fractured vertebrae in the fall. He broke his arm so severely that two rods had to be inserted. He has been unable to return to the vigorous work he once loved.

"It's like my whole life stopped the day of that accident," said Leonardi. "I can't do nothing anymore."

Evans, the DRMS inspector, was new to the job when the accident occurred. He had a total of 20 hours' training in environmental issues. He declined to be interviewed, but others described him as intent on doing the right thing and completely unfamiliar with the world of shipbreaking.

"Tommy Evans was not appropriately trained and he didn't have any experience in shipbreaking," W. Warren Hamel, a federal prosecutor in Baltimore, told a jury last spring during Ellis' trial. "He was clearly not in command of the situation."

For Ellis, it was like having a free pass to violate the law.

When Evans called ahead to say he was coming, Ellis and his managers "would put up yellow caution tape and he was told no work was going on," recalled Neil Mandelman, a former supervisor at the yard. "After he left, we would go back to those areas."

The problem was not simply with Evans. His agency, DRMS, was set up to sell everything from boots to woolen hats to footlockers. Its goal is simple: Sell off inventory as fast as possible for the best price possible.

But a warship is different. The Navy retains title to the ships while they are scrapped, so it is not freed of responsibility for them. And it can take months or even years to break a ship apart. As the Navy's sales agent, DRMS is supposed to oversee the work but has little experience in monitoring something so complicated.

"I could put dead bodies on the ships, and they wouldn't know about it," said an environmental consultant, Said Farrokh, who has worked on ship-scrapping projects.

It was clear from the start that the Coral Sea project would be daunting. When Kerry Ellis took on the job, it was to be the largest shipbreaking project in Navy history. Ellis had scrapped bridges and drydocks before, but nothing remotely as big as the carrier. Andrew Levy, whose company hired Ellis to scrap the ship, said Ellis spent three months just trying to figure out where to begin.

When the cutting started, so did the chaos. There was no systematic plan to dismantle the ship. Workers often weren't protected with respirators or safety goggles, hard hats or hard-toed shoes. Ellis was frequently strapped for cash. His partners accused him of stealing scrap metal and even hired a helicopter to spy on the operation.

Broken promises: Workers scrapping the Coral Sea weren't being paid, so they went back to Texas, says Pablo Sauceda. (photo by Perry Thorsvik : Sun Staff)

And the workers weren't being paid, so they went back to Texas. "He said he was short and would be sending it along," said Pablo Sauceda, 60. "He never did."

Ellis simply replaced the men with others, similarly desperate enough for work that they would tolerate the unsafe conditions: the asbestos in the air, the risk of accidents, the repeated fires.

On Nov. 3, 1996, a fire broke out in the Coral Sea's engine room. With no one standing fire watch and with no hose nearby, the blaze quickly burned

out of control. For the sixth time, the Baltimore Fire Department was called to the scrapyard.

Ellis was furious. He was even angrier a couple of days later, when another fire broke out.

"Kerry was screaming, 'Get down there! Get down there!' " said Epifanio Rodriguez, who went down into the ship with another worker and put the fire out because he didn't want to appear cowardly.

"It's just too dangerous. You could fall," he said. "If I didn't go down there, they'd curse me and fire me."

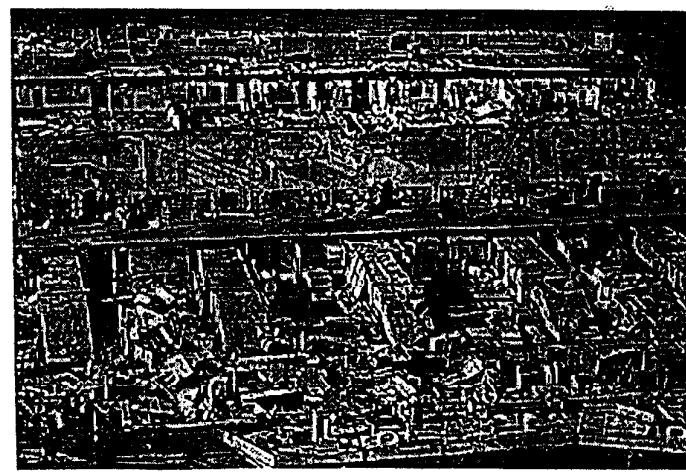
By then, Ellis was under indictment for asbestos and environmental violations. Typically, DRMS, the agency assigned to oversee scrapping operations, was largely unaware of the most serious problems on the Coral Sea and played no role in curbing them.

Ellis, convicted in U.S. District Court in Baltimore in May of dumping oil into the harbor and exposing workers to asbestos, is awaiting sentencing. He declined to be interviewed.

His son, Kerry R. Ellis, has taken over the Coral Sea project, which was intended to take 15 months but is now in its fifth year. While scrapping a warship is always complicated, the younger Ellis said, the difficulties with the Coral Sea were compounded by the Navy's failure to provide reliable information about the location of hazardous materials.

Ellis believes his father was prosecuted to cover up government mismanagement of the ship-scrapping program.

"The Navy or DRMS knew they and their personnel were a big part of the problem," he said. "To protect themselves, they basically needed a fall guy."



Gutting a ship: Aboard the carrier Coral Sea, the chaos began with the cutting. Workers often weren't protected with respirators, safety goggles or hard hats. (photo by Perry Thorsvik : Sun Staff)

Better at the dreams

Ships have been scrapped for generations, but it took someone like Richard Jaross to envision shipbreaking as a modern U.S. industry, recycling on a grand scale.

Jaross, though, proved better at the dreams than the details.

"He's a guy you want to believe in," said Roy Dale, a lawyer who has worked with Jaross in South Texas for decades. "I think he's sincere and he goes into an idea with the idea he's going to make money. It's only when the thing goes south that he starts to look out for his own butt."

Those who have dealt with Jaross are familiar with the pattern. "He moves in, bends the rules to the extent possible, then just about the time the federal and state regulators realize there is a problem, he's finished scrapping the ship or he just takes off," said David Heeter, a North Carolina assistant attorney general.

Jaross showed up in Brownsville, Texas, 25 years ago, a young businessman from Dallas who believed that a fortune could be made in shipbreaking. He had the gift of good timing. Right after World War II, shipyards around the country, including Bethlehem Steel in Baltimore, had scrapped a huge number of surplus ships. In the 1970s, Jaross realized that another wave of ships -- a generation of merchant vessels -- was reaching retirement age.

And there was hardly any competition. Rising labor costs, followed by ever-stricter safety and environmental laws in the United States, had pushed shipbreaking overseas.

He recruited some bright young men, former members of the Boy Scout troop he led in Dallas. The money came easily in those early years; Jaross was able to buy a television station and invest in South Texas land deals. He even founded a Montessori school.

His success was helped immeasurably by his partnership with Emilio Sanchez, owner of Tex-Mex Cold Storage, which handles virtually all the shrimp coming into Brownsville. Sanchez was well connected. An ally was chairman of the port commissioners, and Sanchez's late brother was a Texas state representative who married into oil money.

Where Jaross is energetic and impulsive, Sanchez is serene and courtly. But acquaintances describe him as a tough businessman. His plain office is adorned with one painting, which shows a pride of ferocious lions about to bring down a gigantic bull. Over the years, Sanchez and

Jaross have bought and sold more than 600 government and private ships for scrapping in the United States and overseas.

By the mid-1980s, though, the supply of old merchant ships was drying up. In 1985, a Jaross firm called Andy Machinery Co. pleaded guilty to defrauding the government. The company had been scrapping a Maritime Administration ship when investigators caught Jaross selling lead ballast that belonged to the government and pocketing the proceeds.

"They took a contract dispute and made something criminal out of it," Jaross complained recently. "We thought it better to just settle."

The company was ordered to pay restitution of $42,861 and a $10,000 fine. Soon after, Jaross filed for bankruptcy.

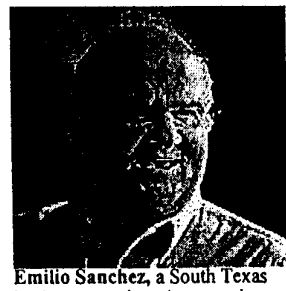
With the end of the Cold War, though, he realized before anyone else that a new opportunity beckoned.

In 1991, he helped start a venture to scrap Navy ships on Terminal Island, in Los Angeles harbor. The company, Southwest Recycling, acquired the USS Bonhomme Richard, an aircraft carrier, and three other vessels.

But after receiving complaints, federal Occupational Safety and Health Administration and state investigators turned up serious safety and environmental violations at the scrapyard.

Leaving his angry partner to deal with crushing financial problems and the unfinished scrapping job, Jaross moved on to Baltimore to help with the Coral Sea project. That, too, ended badly. Jaross was forced out by Kerry L. Ellis after complaining about how the scrapping was done and attempted to set up a rival yard. The Army Corps of Engineers caught him illegally filling in part of the harbor. In the end, the city refused to give Jaross required permits.

In 1994, Jaross went to Wilmington, N.C., to scrap more Navy ships. He had promised to set up a model yard, but what he delivered was far different.



Emilio Sanchez, a South Texas businessman, bought scrapping rights to Navy ships; two men were killed on the project. (photo

One worker was killed, another seriously injured. A minesweeper sank. Asbestos, oil and lead contaminated the site. Oil spilled into the river.

It was next to impossible to keep track of the people and companies involved in the scrapping operation. Over two years, at least 16 companies and partnerships

were killed on the project. (photo by Perry Thorsvik : Sun Staff)

had a financial stake in the ships or the yard.

In July 1996, the state finally shut the operation, forcing the Navy to reclaim 12 ships. If it hadn't been for anonymous tipsters, state officials said, they never would have known of the problems at the yard. DRMS, the Defense agency, had turned up some of the violations, but it didn't alert the proper enforcement agencies.

Heeter, the assistant North Carolina attorney general, faulted DRMS for its lax efforts. "They are in the business of unloading this stuff and making as much money as they can," he said. "They're certainly not regulators from the standpoint of protecting the environment."

Jaross, 57, says he's out of the business. He's been selling used clothing to Africa. But he said he would love to try scrapping nuclear submarines ("I'd be like a kid with a toy"), or set up a "modern-type" yard for general ship scrapping in Baltimore. "That would be the place," he said.

Jaross acknowledged that there have been problems at his operations over the years but says he's been responsible in tackling a tough job.

"It's a very complicated business. I don't think you can do all these ships and not have problems," he said. "It's not like we're running around like wild men trying to break the law."

His former partner, Emilio Sanchez, has had his own problems in the past few years. He was caught up three years ago in a scheme by a scrap-metal dealer who happened to possess a half-dozen blank U.S. Treasury checks stolen from the St. Louis post office.

The dealer, Genaro Alvarez, and Sanchez drove to Matamoros, Mexico, and tried to negotiate two of the checks -- made out to Sanchez for $10 million apiece. Two banks there refused to handle them. U.S. authorities were alerted, and Sanchez and Alvarez were arrested soon after in Texas.

Prosecutors in St. Louis won convictions against Alvarez and others involved, but charges against Sanchez were dropped. In an interview, he maintained that he was an innocent victim of the scheme. He said he thought Alvarez was giving him legitimate checks to be invested in a steel mill in Monterrey, Mexico.

Since then, Sanchez has acquired three Navy ships for scrapping. He contracted with a Brownsville yard, International Shipbreaking, to dismantle them; two men were killed on the project.

In Baltimore: Against the backdrop of the harbor, downtown and Fort McHenry, scrappers demolish the aircraft carrier USS Coral Sea (right), the largest shipbreaking project in Navy history. (photo by Perry Thorsvik : Sun Staff)

Selling shipbreaking

Andrew Levy is a persuasive salesman, and from his Park Avenue office in New York over the past six years he's sold investors on shipbreaking. But the deals haven't always worked out.

"All I know is what I hear from Andy, and when you talk to Andy, everything is always great," said Harold Schein, the principal investor in a failed Rhode Island deal to scrap two ships. "It looked like a lucrative contract. But it turned out to be a headache for everybody. I never got any money out of it."

Levy, a graduate of Yale University and the Harvard School of Law, started out practicing law, then began dealing in oil leases and managed pension plans.

Among his customers in the mid-1980s was the International Organization of Masters, Mates and Pilots, based in Linthicum Heights, Md. Levy and his partners controlled $31 million in retirement funds and had a mandate, he said, to invest in companies creating maritime jobs.

But they put some of the money into businesses in which they had a direct interest and took fees of more than $1 million from those companies, according to a federal court ruling.

The Labor Department deemed that a clear conflict of interest. The department and union members also provided evidence in court that Levy and his partners had lost more than $20 million in union investments.

Levy disputes that, arguing that the investments eventually made money. But he and his two partners were permanently barred by court order from managing the assets of virtually all private-sector benefit plans. An appeal was turned down in 1992 by a panel of judges who wrote that Levy and his partners had engaged in

"egregious self-dealing."

In the 1990s, Levy has been a key figure in buying Navy ships. He's lined up investors to put up the money and then found scrappers to dismantle the vessels.

In a 1995 brochure for prospective investors, for example, Levy's projections were enticing. He estimated that investors would get a 46.5 percent return in a venture to scrap 12 ships. While the project never went forward, the brochure illustrates Levy's optimism.

He planned to scrap the ships in 21 months. He figured on spending just $550,000 to clean up asbestos, PCBs and other toxic materials. He anticipated a profit of more than $4 million. But scrapping operations almost never run as smoothly as the brochure suggested, making those figures unrealistic.

That's because of a fundamental economic fact about shipbreaking: The proceeds from selling scrap are almost never enough to cover expenses, particularly the cost of removing hazardous materials properly.

In the Terminal Island shipbreaking project, for example, the scrapping company lost about $5 million.

"Considering all the risks and dangers and environmental hazards," said Dan Cotter, who administered the project, "it's not even close to being a good business to be in."

In 1993, a San Francisco group called Arc Ecology concluded after a study that ship scrapping could not be profitable. "If the work was done properly, it really wasn't economically feasible," said Eve Bach, who helped prepare the study.

Levy's Rhode Island project demonstrated the financial pressures.

In 1995, he obtained two guided-missile cruisers, the USS Biddle and USS Yarnell, and sent them to American Shipyard.

The yard had turned out ships for the Union fleet during the Civil War and for more than a century repaired America's Cup yachts. But the Newport business was on the brink of bankruptcy.

Its owner was a Croatian immigrant named Kreso Bezmalinovic, who had run an asbestos-abatement firm in New York until it was caught in a bribery scandal involving payoffs to an Environmental Protection Agency inspector. Bezmalinovic eventually pleaded guilty to paying an illegal gratuity to the inspector.

Kreso Bezmalinovic: "In a desperate situation, you do what you can, but believe me, as desperate as it was, we didn't cut any corners." (photo by Perry Thorsvik : Sun Staff)

In 1995, Bezmalinovic, who had no experience in ship scrapping, leased a state-owned pier at the old Seabee base near Quonset Point and hired a crew from Texas.

In the next year:

• Bezmalinovic was indicted by a federal grand jury in New York for conspiracy, fraud and obstruction of justice. Prosecutors argued that after his asbestos-abatement firm was barred from government contracts, he secretly used another company to obtain them. He was convicted in June.

• A state agency discovered unsafe practices at the Rhode Island scrapyard, including a lack of fire watches, monitoring for lead or asbestos exposure and an approved plan for PCB removal.

• The expected profits did not materialize and American Shipyard was pushed into bankruptcy.

• Levy attempted to hire a crew himself to scrap the ships, but the state obtained a court order and forced him out. "Why stay," he said in an interview, "where you're not wanted?"

Bezmalinovic said the project failed because of unexpectedly high costs. "In a desperate situation, you do what you can," he said, "but believe me, as desperate as it was, we didn't cut any corners."

For his part, Levy is disillusioned about the shipbreaking industry. "This is not all that great a business for the United States," he said. "It is a bit of dirty business and it has been proven that the localities don't want it."

And, he said: "Quite frankly, I can make a lot more money doing other things."

'Fundamental error'

With the current scrapping system in disarray, what should the Navy do?

Daniel Peck, a scrapper in Richmond, argued that the Navy should regard the dismantling of a ship as a cost it must bear and pay a private contractor a fair price to do the job properly.

E. Grey Lewis, the former Navy general counsel, agreed. "You have to give these ships away or pay for companies to scrap them," he said.

Alternatively, the Navy could pay a qualified contractor to remove asbestos and other hazardous materials from its ships, and then sell the vessels to scrapyards.

"The idea that we're solving significant hazardous waste problems on the cheap -- that's the fundamental error," said James Moorman, an environmental lawyer in Washington. "The Navy is just not owning up to the cost of disposal."

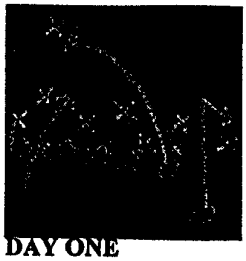
But the Defense Department has declined to pursue such options. Instead, it says, it has beefed up monitoring and is being tougher about who is scrapping Navy ships.

"The Navy is very concerned with the necessity of ensuring that ship scrapping is conducted in an environmentally sound manner and in a way that protects the health and safety of workers," the Navy said in a prepared statement. Navy and DRMS officials responsible for the ship-scrapping program repeatedly refused to be interviewed, though they have answered questions in writing.

DRMS said that it now has four inspectors monitoring ship-scrapping contracts instead of one. And since September 1996, bidders have been required to submit a proposal showing how they plan to dismantle a ship, how they will dispose of hazardous substances, how they will comply with health and safety requirements, and that they have the financial ability to complete a scrapping project.

Have those changes fixed the problems?

"Absolutely not," said Peck. "Nobody from the government who is checking out the qualifications of the bidders has any experience in scrapping ships. They have no idea whether a potential scrapper can do what they represent they will do. They have very little understanding of what it takes to cut up a ship."



THE SHIPBREAKERS

A Third World dump for America's ships?

Heavy burden: Ill-protected workers break ships at Alang, where smoke and dust obscure the sun, and crashing steel and rasping torches drown other sound. (photo by Perry Thorsvik : Sun Staff)

India: On a fetid beach, 35,000 men scrap the world's ships with little more than their bare hands. Despite wretched conditions, they say it is better to work and die than to starve and die.

By Will Englund and Gary Cohn
Sun Staff

Third in a series

ALANG, India -- This is where the world dumps its ships, worn out and ready to be torn apart.

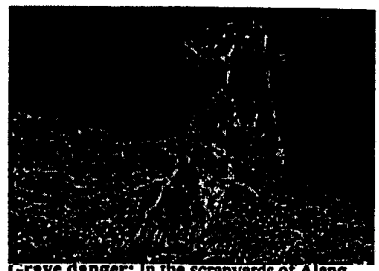
To the left and right, ships lie stranded along six miles of beach, in a hundred stages of demolition. Tankers, freighters, fish processors and destroyers -- smashed, cut, rusting, smoking -- are packed close together. This is the end of the line.

Thirty-five thousand men have come to this once-deserted stretch on the Arabian Sea to labor for the shipbreakers. They live in hovels built of scrap, with no showers, toilets or latrines. They have come from poor villages on the other side of India, lured by wages that start at $1.50 a day, to work at dangerous jobs, protected only by their scarves and sandals.

They suffer broken ankles, severed fingers, smashed

Vessel's last voyage ends on Indian sands
Beaching: An obsolete Russian freighter bearing gifts glides out of the night to end its days on the beach at Alang.

skulls, malarial fevers, chol-era, dysentery and tuberculosis. Some are burned and some are drowned. Nobody keeps track of how many die here from accidents and disease. Some say a worker dies every day.



Grave danger: In the scrapyards of Alang, workers die daily from accidents and disease. (photo by Perry Thorsvik : Sun Staff)

"There is a shadow of death on this place," says Ram Lalit, a 22-year-old worker. "This place is haunted by death. But it is better to work and die than starve and die."

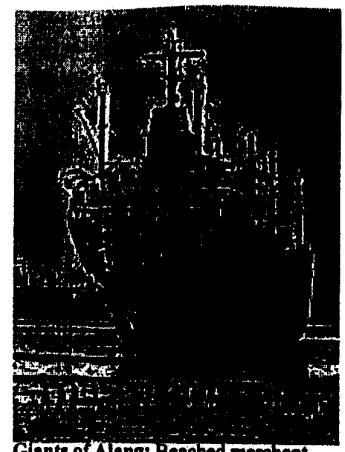
The U.S. Navy, which for years has insisted on scrapping its ships in the United States, now wants to send them abroad -- here to India, or to similar beachfronts in Pakistan or Bangladesh.

With its American scrapping program entangled in environmental and worker safety problems, criminal charges, bankruptcies and lawsuits, the Navy has decided to drop its old policy. To escape the turmoil in its domestic program, it could simply export its obsolete ships, laden with asbestos, PCBs, lead, toxic sludge and other hazards to South Asia.

The plan required the Navy to obtain an exemption from rules prohibiting the export of certain hazardous materials. The federal Maritime Administration, which owns a fleet of old cargo ships, tankers and other vessels, received a similar exemption.

With about 170 ships designated for scrapping, the Navy and Maritime Administration point to the higher prices the vessels can fetch abroad. But selling the ships overseas could put the U.S. government in the center of a growing debate over exploitation of Third World workers -- those who make the sneakers, clothes and toys to satisfy Western tastes, and receive the used car batteries, plastic bags and toxic chemicals that the West discards.

If they are sent to Alang, the U.S. government ships will join American merchant vessels that already come here. They will add to the long ranks of broken hulks -- from Norway, Japan, Greece, Russia -- that meet their end on the 190 plots here, where smoke and dust obscure the sun, and the crash of steel and the guttural rasp of the torches drown out any other sound.



Giants of Alang: Beached merchant vessels dwarf laborers who strip them. Tidal extremes and a gently shelving beach allow shipbreaking without piers or drydocks. (photo by Perry Thorsvik : Sun Staff)

The beached ships tower over the hundreds of workers who strip them apart, men who know they are expendable.

"All burden to the laborers and none to the owners," says Shive Cheren Bharti, 36, who has worked at Alang for 14 years. "There's no risk to them. If 20 people were to die at once, the owners wouldn't care."

Then, his face inexplicably lighting up in a big grin, he says, "We're the hopeless people of India."

High tides, low beach

Alang exists because of the tide. It is one of those places -- like the Bay of Fundy in Canada -- where a host of geographical circumstances come together to create exceptionally large differences between the twice-daily high and low tides. Coupled with a soft, shelving beach, the tides at Alang make shipbreaking possible with a minimum of construction. There are no piers or drydocks. Ships are simply run onto the shore.

Giant merchant vessels powered by thunderous engines and navigated by satellite signals carry the goods and fuel that enable the modern technological world to exist.

Yet a ship ends its life at the hands of several hundred practically barefoot men, and the beginning of that process depends on the phase of the moon.

Morning ritual: A worker washes outside his shack, using only a bucket. Sanitation is poor in a colony without running water or latrines. (photo by Perry Thorsvik : Sun Staff)

Twice a month, at the full moon and new moon, high tides are at their highest, and this is when a ship, be it 3,000 tons or 50,000 tons, can be driven the farthest onto the beach. And, just as a ship is launched with a bottle of champagne smashed across its bow, the dismantling begins with workers on the beach hacking open a coconut and offering a prayer for protection to the elephant god, Lord Ganesh.

But prayers aren't always enough.

On Jan. 8, the men at Plot 37 were cutting up a Greek freighter called the Vakis-T. Eight workers were cutting in a section at deck level.

"I was two feet away," says Shiv Shankar, 38. "I was talking to them. The last thing I said was, 'Why don't you work faster? It's time to get this job over with.'" The whole section broke off and plunged 40 feet into the ship's hold. Three men died from head injuries. Five survived. None was wearing a hard hat. "This was God's will," says a supervisor, Toofani Bhai, 32. "Nothing could be done about it. I felt hurt -- it pained me. I was among those who picked up the bodies and put them on the ambulance."

"It was their call to death," says Shankar, with a shrug. But not everyone here is so accepting of fate.

Heave: A gang of workers strains to lift a steel plate onto a truck at Annapurna Shipbreakers in Alang. Indian shipbreakers are reaping a bonanza as the world's major tanker lines replace their fleets. (photo by Perry Thorsvik : Sun Staff)

"The joint that broke was almost rusted through," says a worker, Sita Ram. "The shipbreaker should have known it was weak. But the shipbreakers have no regard for life.

"Alang," he says, "is a colony of the dead -- breathing, walking dead men." After the section fell, the owner of the yard called for Alang's single ambulance. It happened to

be available. Digvijay H. Sarviya, the driver, says that when he got to the accident scene it appeared that two men were dead and one was near death. He decided to load all three into the ambulance, because he wasn't sure.

"Giving first aid would consume too much time," he says. "I just rush them to the hospital."

Sarviya says he makes the 40-mile trip to the hospital in Bhavnagar once a day, sometimes twice. The drive, on a two-lane road clogged by trucks, scooters, tractors and cows, takes 90 minutes to two hours. When Sarviya reached the hospital, all three of his passengers were dead.

The Vakis-T accident was hardly the most serious at Alang.

"I've seen many worse accidents," says Bhai, the supervisor. "I've seen 15 men killed."

This year, a fire reportedly killed 18 men, and at least eight died in separate blazes. In the summer of 1995, up to 12 workers -- accounts vary -- were asphyxiated by ammonia on a Russian fish-processing ship. In 1988, a fire aboard a cargo vessel killed as many as 40 men.

Recently, the Red Cross opened a clinic at Alang, but doctors and nurses don't like to come here, so it is rarely open. Most injured workers are taken to the government hospital in Bhavnagar, but a handful of owners send injured workers to Dr. Dinkar Dholakia's orthopedic clinic there instead.

They are housed together in a basement room, where daylight hardly penetrates the small dirty windows. But everyone considers this better than the hospital.

Where the money is: While everything aboard ships is scavenged, the money is in the metal. And the secret to making it is to break a ship and sell the steel quickly. (photo by Perry Thorsvik : Sun Staff)

Dr. Mukesh Shah says about 10 new patients arrive each month at the clinic. Many have anemia because of poor nutrition, and skin problems such as scabies because of poor hygiene and no laundering. Poor sanitation contributes to gastroenteritis. Many suffer from tuberculosis and alcoholism. About 40 percent of the patients have malaria, he says.

One patient, Vijay Shahu, 34, of Orissa, had been injured at Plot 88 when a steel plate crushed his right leg. He was in shock when he arrived and the doctors couldn't find a

pulse. He will not be able to work at the yards anymore.

Ramesh Prajapati, 22, of Uttar Pradesh, was admitted without a detectable pulse when a pipe fell from a crane and hit him in the head. His future? "Let us all hope for the best," Dholakia says.

Life in Alang

Workers in Alang begin stirring around 7:30 a.m.. Some wash from a bucket on the muddy ground outside their huts. Others squat by puddles, dipping toothbrushes in the yellow water and cleaning their teeth. There's early morning coughing all around.

At this hour, the chief activity is along the strip of shacks that serve the workers' needs: a barber's stall and a tailor's, a man who does laundry and a Muslim prayer leader, vendors who sell bicycle parts, kerosene lamps, sodas, cigarettes, fruit and eggs.

A small Hindu temple stands outside the gate to Plot 18. The temple is shaded by a neem tree, with two bells salvaged from ships hanging from a branch. It is one small reminder of a world, a life, that exists beyond the yards.

The men live in shacks they have built out of lumber harvested from the ships. The shacks are packed on the dunes behind the beach, separated by muddy alleys. Four or eight or 12 men might live in one shack. There is no furniture, no light, no water.

At the clinic: A steel plate crushed the leg of Vijay Shahu (right) who shares a room at an orthopedic clinic in Bhavnagar with another injured worker. (photo by Perry Thorsvik : Sun Staff)

Sriram Prasad, 32, with dark hair brushed forward and a bushy mustache, counts himself among the lucky men of Alang. He lives in an 8-foot-square shack with three others. They sleep on a table. The walls are covered with newspapers; little triangles of colored paper hang from the ceiling. He has a wife and two sons back home. A brother and many of his neighbors work here. He gets the shack for free.

He says he has worked here 10 years. "It's hazardous -- we're always scared of getting hurt. I get bruised all the time, but I've been lucky and never seriously hurt.

"But I've seen so many people die. I've seen 100 people die before my eyes. It is just a matter of destiny."

This attitude infects seemingly everyone in Alang. Destiny brings men who otherwise could not support themselves to this fiery corner of India. Destiny wears them out and fills them with malaria. Destiny deprives them of decent sanitation. Destiny burns them and crushes them.

"The best thing is the money, which I wouldn't get anyplace else," says Prasad, "and the worst thing is not knowing how long you'll be alive."

Little protection: Upendra Parida uses rags to protect his hands from jagged edges as he lifts a piece of steel. Workers take few precautions in removing asbestos or other hazardous materials and nowhere in Alang, among tens of thousands of men, did anyone wear a hard hat, safety harness or respirator. (photo by Perry Thorsvik : Sun Staff)

A single, heaving rutted road runs parallel to the beach. In the morning light, cows amble along looking for scraps of food. The trucks come to life; soon they'll be jostling for room and, later, the owners' Japanese four-wheel-drives will come blaring and darting among them.

The workday begins, no different from the day before or the day after. A cutter takes a torch to an engine room pipe, and residual oil inside bursts into flame. Nearby, smoke rolls from a smothered fire, mixing with the acrid fumes of burning steel and paint. A little farther off, a ship's deckhouse is pushed off its perch and plunges 70 feet to the hold below, with a crash that sends a huge dust cloud swirling.

Pairs of workers carry oxygen canisters on their shoulders, cushioning the load with their all-purpose safas, traditional Indian scarves. Gangs of a dozen or more men, plastic sandals on their feet, chant in unison and hoist heavy plates of steel onto their shoulders. Others heft cutting supplies alongside the beached ships, wading through muddy sand saturated with oil, dust, sludge and human excrement.

The scrapyard owners look on from their porches, sipping sweet milky tea. Walking to or from the yards, the men of Alang seem listless, worn out, beaten down. But they are diligent workers. At Plot 66, two men, facing each other, pull on the ends of a large hacksaw, like lumberjacks, cutting the copper pipes of a boiler. They've been at it since 3 p.m. the day before. They expect to finish toward

sundown the next day.

Back and forth, in a patient trance, with an unvarying stroke, they pull at the saw.

"It's how we earn our bread," says Ram Sanwarey, 38.

Sought-after ships

To the dump: A worker carries insulation stripped from the aircraft carrier USS Bennington down to the water's edge for disposal in the Arabian Sea. (photo by Perry Thorsvik : Sun Staff)

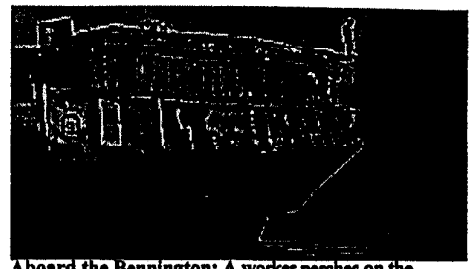
The most sought-after ships are those that fly the American flag. Greek tankers and Russian trawlers are the bread and butter of the scrapyards here, but a shipbreaker knows that a U.S. merchant vessel was built with high-grade steel, was well-maintained, and will be clean of grease and sludge when it arrives. It will be laden with asbestos and PCBs, but Indian shipbreakers do not worry about environmental damage or exposing their workers to hazardous substances. And, anyway, almost all the world's ships (except the newest) were built with asbestos and PCBs.

An American tanker called the Keystone Rhode Island arrived at Alang this year after three decades hauling oil. Owned by a shipping firm in Bala Cynwyd, Pa., the Rhode Island was sold through a New York broker to a middleman in Singapore, who sold it to a breaker here. It was one of several hundred ships that make their way to Alang every year through brokers in London and New York. In 1996, the brokers sold 464 ships for scrap, with 289 coming to India and most of the rest to Pakistan or Bangladesh. There are no reliable figures on the number of warships and commercial vessels -- mostly Russian -- sold outside the established brokerage system.

The Rhode Island was built in Baltimore by Bethlehem Steel for the Texaco Oil Co. Launched in July 1964, the 604-foot tanker represented American shipbuilding in its prime. Texaco brought in dignitaries by train for the ceremony; Beth Steel threw a lunch afterward at the Sparrows Point Country Club.

The tanker had 90,000 feet of pipe and was covered with 8,500 gallons of lead-based paint. It was powered by big steam turbines, which the Indian shipbreakers treasure because of the high-priced specialty metals that went into their construction.

Legacy of the Exxon Valdez



Aboard the Bennington: A worker perches on the remains of the USS Bennington, one of a handful of Navy vessels scrapped in Alang in recent years. But the Navy could soon send dozens of ships there. (photo by Perry Thorsvik : Sun Staff)

Its demolition is part of a much larger story.

After the Exxon Valdez ran aground in Prince William Sound in Alaska in March 1989, spilling 11 million gallons of oil, the disaster led to stronger measures to protect the environment. Congress required new tankers to have double hulls -- one inside the other -- and outlawed the use of single-hulled tankers like the Exxon Valdez by 2010.

The result has been a bonanza for Indian shipbreakers, as the world's major tanker lines replace their fleets. There are about 6,700 tankers in the world. Each tanker scrapped in India (or in Pakistan or Bangladesh) means the wholesale release of oil, sludge, asbestos, PCBs and chromates onto the beach and into the water, and the release of lead fumes into the air from burning paint. Each tanker scrapped translates into a dozen or more injuries among the workers, and an even chance that someone will be killed.

That is the last legacy of the Exxon Valdez.

With the Keystone Rhode Island, as with all ships here, the breakers begin cutting from the bow and work their way aft, leaving the bottom plates to the end. A tanker can be dismantled in about seven weeks; a warship takes considerably longer, because it is full of compartments and hard-to-cut armor plate.

Any equipment that can be reused is sold through secondhand dealers on the road from Bhavnagar. Buyers can find, in varying states of repair: sinks, toilets, chairs, mattresses, life jackets, china, telephones (with and without dials), lumber, doors, desks, fire hoses, colanders, mixers, pumps, water fountains, vacuum cleaners, refrigerators, washing machines, diesel engines and surgical tables.

One dealer had an American flag, in a heap on the ground, and a selection of pianos (including a Soviet Red October upright, badly out of tune).

But items such as these account for only about 4 percent of a shipbreaker's income, said Bhavin Shah, overseer on the Keystone Rhode Island. The money is in the metal. And the secret to making it, he said, is to break the ship and sell the steel as quickly as possible.

Funeral in Alang: To chants of "Ram, nam, satya hai," or "The Name of the Lord is the Truth," the body of Shahade Ram, wrapped in an orange shroud, is carried to the beach and placed on a funeral pyre of scrap lumber scavenged from the ships. The 35-year-old worker had complained of a cough and chest pain, and died hours earlier in his hut. (photo by Perry Thorsvik : Sun Staff)

The U.S. Navy, which could soon send dozens of ships here, has had a handful of vessels scrapped in Alang in recent years. The USS Bennington, for example, came here in 1995.

A company called Resource Recovery International paid $200,000 to scrap the World War II-era ship in the United States. Then the company agreed to pay an additional $1 million in return for being allowed to send the aircraft carrier to India. In December 1994, Resource Recovery sold the vessel to a middleman in England; the middleman then sold it to an Indian shipbreaker for a reported $6 million.

The escalating resale price is explained by the lower costs South Asian shipbreakers incur -- and the higher profits they collect -- because they pay paltry wages and aren't hindered by tough safety and environmental regulations. The Defense Department did require Resource Recovery to submit a technical plan outlining how workers' safety and health would be protected. But the plan was meaningless. Rohit Bhatt, an official with the Alang scrapyard, said his company had no contact with anyone from the U.S. government or Resource Recovery.

On a visit to the site, Sun reporters saw about 400 workers cutting steel with torches and doing other work as they dismantled the Bennington. No special precautions were taken in removing asbestos or other hazardous materials.

Funeral in Alang: To chants of "Ram, nam, satya hai," or "The Name of the Lord is the Truth," the body of Shahade Ram, wrapped in an orange shroud, is carried to the beach and placed on a funeral pyre of scrap lumber scavenged from the ships. The

35-year-old worker had complained of a cough and chest pain, and died hours earlier in his hut. (photo by Perry Thorsvik : Sun Staff)

In fact, nowhere in Alang, among the tens of thousands of men, did anyone wear a hard hat, safety harness or respirator, even though they are required by the Gujarat Factories Rules.

Under its new policy, the Navy wouldn't need to inquire about safety practices in India. Such formalities as existed in the Bennington project, at least on paper, would be swept away.

Overseas sales of U.S. warships became possible this summer after the Environmental Protection Agency gave the Navy an exemption from rules banning the export of ships containing PCBs, or polychlorinated biphenyls. They were widely used in electric insulators until the 1970s, when they were linked to serious health problems.

The export agreement requires the Navy to remove the most hazardous PCBs, those in liquid form. Most others, though used in thousands of ship parts, can remain.

Asbestos and other toxic substances are not addressed in the agreement, and the Navy is not required to remove them before exporting ships. The Maritime Administration, which owns a large fleet of obsolete merchant vessels, signed a similar agreement last month.

Joan M. Bondareff, chief counsel for the maritime agency, says it is required to get the highest price possible for its ships; selling them overseas brings far more than selling them at home.

She describes the agreement as a "win-win" for the agency and the environment. "We can continue to export obsolete ships for scrapping and the environment is protected with the removal in the United States of PCBs," she says. Navy officials declined to be interviewed about overseas scrapping. But in a written statement, the Navy says the agreement "provides an opportunity for the Department of Defense to maximize the return to the U.S. Treasury from such sales."

Sen. John Glenn, an Ohio Democrat, is critical of the export plans. "While I understand the need for the Navy ... to be able to dispose of surplus craft in an expeditious and cost-effective manner, U.S. jobs and environmental problems should not be exported in the process," Glenn wrote recently to Navy Secretary John H. Dalton.

James Moorman, an environmental lawyer and former assistant U.S. attorney general, agrees.

"The Navy can manage things if they want to -- it appears they're just not interested," says Moorman. "This idea that

we ship pollution problems to a Third World country strikes me as a serious mistake. It's the sort of thing our government shouldn't be doing."

Where labor is cheap

It's not surprising that the shipbreaking industry developed in India. Labor is cheap. There's a domestic market for steel. The owners are driven. The workers and their few advocates are powerless. In a Third World nation beset by corruption, poverty and overpopulation, government regulation is ineffectual.

Alang is so remote that few people other than workers or owners ever make their way here. Local officials say the industry, which started in 1983, is only now maturing. While there have been plans for several years to create a development authority to build housing, schools and a hospital, nothing has come of them. The workers, left to fend for themselves, have nowhere to turn when disabled by illness or accident. Everywhere in Alang are men who are too hurt to work but are hanging on, hoping for a settlement from their bosses.

Sanjay Tatoba, 26, of Mahareshtra, was asked one morning why he was not working. He raised his left hand. Two fingers were missing. "I feel it should not have happened, but who should I direct my anger against?" he says.

Under Indian law, men who are injured and the families of those killed are entitled to compensation from the owner. In practice, they have to prepare themselves for a long wait. Just ask Pradeep K. Thakkar, a robust lawyer who is one of the very few and very lonely advocates for the workers at Alang. Thakkar represents more than 300 Alang workers or their families before the Labor Court in Bhavnagar. It has just one judge and a backlog of 10,000 cases. Prospective clients can find Thakkar at his office on lawyers' row in Bhavnagar. They must first climb stairs so steep that a knotted rope is provided to hang onto.

Thakkar is a forceful and unstoppable speaker. He chews betel nuts constantly, which stain his mouth red. He sits by a row of open windows, in a tiny, narrow office, spitting regularly out the window and working despite the constant din of horns, scooters, bicycle bells, cooing pigeons and slamming shutters from the street below. He keeps each case in a worn, folded manila cover, tied with faded red ribbon.

"There is no law," he shouts. "Shipbreakers are exploiting the workers. The government has no role."

A sampling of his clients' cases shows how sluggish the legal system can be. There's Shantaram Sriram Jadav, who

fell into the sea while climbing an anchor chain on July 20, 1994. He was presumed drowned. For two years, his widow and four daughters were promised compensation, but got nothing. Finally, they asked Thakkar to sue, seeking $8,500, but they have not been able to raise the $17 filing fee.

There's Birbal Mahato, who was asphyxiated Sept. 17, 1993, by a gas leak. Thakkar won the case, but has been unable to collect damages of $4,500. The shipbreaker has offered to settle for less.

And there's Ram Nagina Toofani, who was burned to death on March 10, 1991. A suit filed July 22, 1991, has gone nowhere.

"Sometimes, I feel very frustrated," Thakkar says. "But I will continue my fight relentlessly."

On occasion, the state Labor Commission brings an action in criminal court when a worker dies.

"I can tell you no accident will go unpunished," says R.S. Vaghela, the labor commissioner. But not a single case, going back at least to 1989, has been resolved. No shipbreaker has ever been convicted.

The owners of the scrapyards operate with impunity. But they are a product of the system, not the creators of it. India rewards those who help themselves. "Naturally, the shipbreakers want to put labor into a better position," says H.K. Agrawal, one of the most prominent scrapyard owners in India.

Conditions are poor, he concedes. "But 15 years ago there was nothing. In my eyes, a lot has been done here. I tell you why I like this business -- I create jobs for 200 to 300 people and I run it like a family. If I do something like that, then I'm sure I'm getting some profit also."

The problems, he says, lie with the Gujarat Maritime Board. It is the responsibility of the board to worry about housing and sanitation. The shipbreakers donated about $300,000 for housing to the board, and no one knows what has become of the money. The head of the local Maritime Board office, Agrawal complains, only gets in the way.

The accidents are regrettable, he says.

"But the worker knows, 'If I die, my family gets the money,'" he says. "This is in his mind. He tends to take risks, which he should not. Most accidents occur because workers are very keen to please the owners, and they are so loyal to the owners they want to finish the work quickly. This is the good side and the bad side."

Agrawal says he once worked in the yard himself, when his father ran it. "I have seen the ups and downs of life," he says. "There was a time in my life when I did not have enough for two square meals. I feel for the downtrodden." Clad in raw silk pajamas with gold buttons, Agrawal had welcomed a group of American visitors to his home in Bhavnagar. As celebrants blew horns and set off firecrackers beyond his garden wall -- it was marriage season in Gujarat -- private security guards lingered nearby.

His contemporary home sprawls: The black-and-white marble floor of Agrawal's living room was large enough to accommodate at least eight of his laborers' shacks in Alang.

Virtually all the owners at Alang are self-made men, and they want the world to know it.

'Maharajah style'

"They like the flamboyant and a little bit of show," says Zarine Khan, a high-society Bombay interior decorator who has worked for about a dozen shipbreakers in Bhavnagar. "I'm catering to their tastes, and their tastes are pretty loud."

They like a lot of marble, she says, and paint over expensive rosewood furniture to make it showier. Khan says the shipbreakers aspire to a "maharajah style." When she completed Agrawal's house several years ago, he threw a party for himself and invited 1,000 people.

Agrawal, in his mansion, and the hundreds of men who work for him, in their shacks, are a long way from Ahmedabad, the capital of Gujarat -- at least a six-hour drive over poor roads. Officials with the state labor commission there speak of conditions at Alang with certainty. They point to nine pages of detailed safety rules about shipbreaking. That the rules are unenforced was, apparently, beside the point.

But their boss, the commissioner, Vaghela, acknowledges that life and work at Alang could be better.

He talks about the jobs created and steel produced by the shipbreakers. (Shipbreaking accounts for about 7 percent of India's steel production, according to the steel ministry in New Delhi.) But he also talks about the health and safety problems at Alang. There are no death certificates issued when workers die of illness or are killed, and no single government agency believes itself to be responsible for conditions there.

There is, he says, one thing that the developed countries

have a moral responsibility to do: Rid their ships of hazardous materials before sending them to India.

"Your country can afford all of this," he says. "It is a small thing they can do."

Is shipbreaking a net plus or minus for India? "Don't ask these questions," Vaghela says, shaking his head. "Only developing countries are doing this job. They need money." A worker's end

It is late morning and the laborers at Plot 37 have gathered outside the gate. Each man holds a plank on his shoulder. They begin walking, falling into a procession down the street, past the yards. They carry the boards like peasants with pitchforks, or soldiers with rifles. Others turn to watch, though they've seen this before.

A hundred men, swelling to 200, move determinedly down the street, quiet at first. Then the chanting begins. "Ram, nam, satya hai."

The Name of the Lord is the Truth.

At the front, wrapped in an orange shroud, they carry the body of Shahade Ram, 35, who had worked here five years. He had complained of a cough and chest pain. A self-styled doctor told him he would be fine and gave him a glucose injection. At 1 a.m. he had died in his hut. That was nine hours ago.

The men come to the place where Alang creek cuts through the dunes and enters the Bay of Cambray. Below the tide line, a small corral of timbers is driven into the sand. Inside it, the wood the men have been carrying is piled four feet high.

Traditionally, a body is burned with sandalwood, but here the men must use scrap lumber scavenged from the ships. There is no priest for a proper Hindu funeral, so a man who knows the ritual leads the ceremony, along with Ram's brother.

The body is placed on the pile. More boards are put on top, and large timbers are leaned against the pyre.

The smell of incense overpowers the smell of excrement (here, below the high-tide mark, is where the men come to defecate) and the acrid smell of smoke from the nearby plots.

There is a brief distraction: A fire at a plot 200 yards away has sent workers running in all directions. It ends with the concussive explosion of an oxygen canister.

Seven men walk around the pyre, chanting, "Ram, nam,

satya hai," and lighting the fire with burning bundles of reeds.

Bright orange flames leap from the pyre, and the men back away from the heat. A few leave. One rings a bicycle bell as he walks away.

The fire burns for a long time, until finally the tide comes in, washing away what little remains of Shahade Ram.

Sun researchers Jean L. Packard, Robert Schrott and Paul McCardell contributed to this series.

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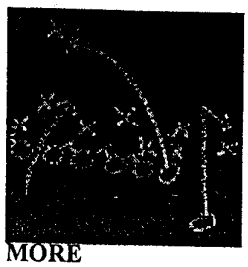

MORE

Scrapping ships, sacrificing men
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Broadsides fired at Navy's ship-scrapping program

Critics object to plan to sell warships abroad

By Gary Cohn and Will Englund

SUN STAFF

The Navy's troubled ship-scrapping program and its plan to sell warships abroad came under attack yesterday from members of Congress and several environmental organizations.

Critics demanded that the Navy and Defense Department justify a program that has run into serious environmental and safety problems at yards around the country. They objected to the only alternative the Navy has offered -- sales of ships, laden with hazardous materials, to Third World scrapyards, where worker protection is minimal and pollution routine.

"I find it unconscionable that the United States would bend its own environmental laws, exporting a serious environmental and worker safety problem along with these vessels, merely for the sake of expediency," said Rep. George Miller, a California Democrat.

In letters to several government agencies, Miller cited a series of articles published last week in The Sun that described the deaths, injuries, accidents, fires and mishandling of asbestos in shipbreaking yards.

Rep. Wayne T. Gilchrest, a Maryland Republican, said last night that a subcommittee he heads would hold hearings on the ship-scrapping program.

Beginning in February, Gilchrest said, the Coast Guard and Maritime Transportation subcommittee would look into the environmental, health and safety problems linked to the transient shipbreaking industry.

Defense Department and Navy officials defended the program this week, declaring that they had tightened bidding procedures to weed out disreputable contractors and had improved the monitoring of scrapyards.

Those remarks brought renewed criticism from Sen. Barbara A. Mikulski.

"Frankly, I was disappointed in their tepid comments," the Maryland Democrat wrote to Defense Secretary William S. Cohen. "We don't need hollow promises and cliches. We need an action plan and concrete solutions."

Spokesmen for the Navy and the Defense Logistics Agency, which handles the sale of ships for scrap, said they were not prepared to comment on Mikulski's letter.

Miller said his House committee had devoted years to the problems of shipyard workers from an earlier generation who were exposed to asbestos while building Navy ships.

"I am frankly distressed to learn that many of the same kinds of hazardous conditions we investigated at that time are apparently frequently present in shipyards where government ships are being broken down," he wrote to John H. Dalton, secretary of the Navy.

Much of the congressional comment centered on the Navy's consideration of a plan to sell its obsolete ships to yards in South Asia. Most overseas shipbreaking is done on beachfront plots in India, Pakistan and Bangladesh.

In Alang, India, the largest shipbreaking center in the world, 35,000 men work and live in wretched conditions. Death by accident and disease is an everyday occurrence.

Proponents of the export plan have pointed out that the U.S. government could receive more money for its ships; unregulated foreign yards have much lower costs.

"Maximizing the profits from vessel scrapping is not sufficient justification for the United States exporting toxic wastes to countries not equipped to dispose of them properly," Miller said in his letter to Dalton.

The Environmental Protection Agency signed an agreement with the Navy last summer that would lift a ban on the export of warships, which was put in place because of PCB-containing materials on board.

PCBs, or polychlorinated biphenyls, were used extensively for 50 years in electrical insulation, in air system gaskets and fluorescent light fixtures. They have been linked to cancer, liver and skin disease, and developmental problems in infants.

Under the agreement, the most accessible PCB-bearing materials would be removed, but others could remain on the ships. Although it pushed hard for that agreement, the Navy has not moved to carry out the plan.

Sen. John Glenn, an Ohio Democrat, expressed concerns about the agreement.

"I don't like the way it was done," he said. "The rule-making process is there for a good reason, to let all the interested parties comment and make sure safety is paramount. And yet they went ahead and changed the way of doing business.

"That's not right. That's not taking the safety or workers here or abroad into account."

Steven Herman, the EPA's assistant administrator for enforcement, defended the agreement. He said the agency required the removal of the most hazardous PCBs before export as well as notification to the countries where the ships would be sent.

"Our moral responsibility is to do as much as we can to try and protect people's health and safety," he said. "On the other hand, we can't control what other countries do. Even if we wanted to, it's not possible."

But environmental groups dismissed such arguments.

"I think it's a classic case of toxic colonialism," said Joshua Karliner, executive director of the Transnational Resource and Action Center, a nonprofit group in San Francisco.

The export of Navy ships, he said, "is basically taking a toxic-laden hulk of waste and finding the cheapest and least-regulated way to dispose of it, and saying the hell with the social and environmental consequences of what we're doing."

Michael McCloskey, chairman of the Sierra Club, said he was particularly alarmed about shipping PCBs abroad.

"I think the United States has a clear responsibility there," he said, although he hasn't seen the particulars of the agreement. "If the United States manufactures them and they are now in the United States, we should take care of them."

Polly Parks, a military environmental consultant in Washington, said sales of ships to South Asia could create a political and economic liability for the United States.

"I mean, good grief, they're sending over ships that have asbestos in them?" she said. "If we have a work force in this country that can do the job, and we have standards, we have a responsibility to do the job ourselves."

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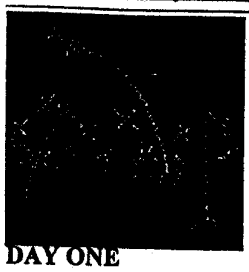


DAY ONE

Scrapping ships, sacrificing men
Salvage: As the Navy sells off obsolete warships at the end of the Cold War, a little-known industry has grown in America's depressed ports. And where the shipbreaking industry goes, pollution and injured workers are left in its wake.

'You're going to die anyway'
Brownsville: In this U.S. shipbreaking capital on the Mexican border, where labor and life are cheap, scrapping thrives amid official indifference.

DAY TWO

The curious captains of a reckless industry
Scrapping: The Pentagon repeatedly deals with shipbreakers

'You're going to die anyway'

Brownsville: In this U.S. shipbreaking capital on the Mexican border, where labor and life are cheap, scrapping thrives amid official indifference.

BROWNSVILLE, Texas -- This dusty, dingy corner of South Texas is a near-perfect place to carry on a dirty job like ship scrapping.

Here along the Rio Grande, in a region that has the highest percentage of people living below the poverty line of any American metropolitan area, residents have had to contend in recent years with tick-borne fever, a high concentration of babies born with malformed brains and killer bees. It is one of the few places in the United States where leprosy has not been stamped out.

Brownsville, a city of 100,000, is home to garment factories, rail yards, oil-rig repair companies, used-clothing dealers. It lies just across the border from a cluster of "maquiladoras," assembly plants run by American corporations that are exempt from Mexican duties and have become notorious sources of pollution.

Here, said David Elizondo, a longshoreman who dreams of the day he might be able to organize the scrapyard workers, the politics are brazen, corruption is rife, and a few people have things comfortably in control -- abetted by low voter registration, low turnout among those voters who are registered and a certain Mexican fatalism.

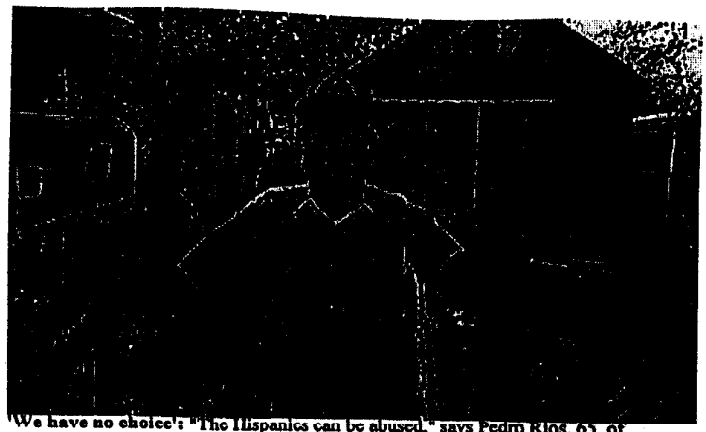
"People here say, 'You're going to die anyway,'" Elizondo said.

deals with shipbreakers with dismal records, then fails to keep watch as they leave health, environmental and legal problems in America's ports.

DAY THREE

A Third World dump for America's ships?
India: On a fetid beach, 35,000 men scrap the world's ships with little more than their bare hands. Despite wretched conditions, they say it is better to work and die than to starve and die.

Vessel's last voyage ends on Indian sands
Beaching: An obsolete Russian freighter bearing gifts glides out of the night to end its days on the beach at Alang.



'We have no choice': "The Hispanics can be abused," says Pedro Rios, 65, of Brownsville, a steel cutter for 23 years. "It's out of need we do this. I got this job because I don't know how to read or write. You could say this is a job for the dumb." (photo by Perry Thorsvik : Sun Staff)

A businessman gets left alone in Brownsville. It's a long way across wide-open, flat scrubland to the rest of Texas. State environmental regulators don't find their way down from Austin very often. The official in charge of PCB enforcement for the Environmental Protection Agency is based in Dallas, several hundred miles away, and went years without coming here. The two-man office of the Occupational Safety and Health Administration, responsible for all of South Texas, is a three-hour drive away, in Corpus Christi.

"There aren't a lot of people to bug you there," said Andrew A. Levy, a New York lawyer who has bought warships for demolition.

The port lies several miles outside town, along an artificial channel cut in from the Gulf of Mexico in 1934, a place where summer winds whip up huge sandstorms across the dry river delta. There, steel comes in as an old ship and it leaves as 2-foot-by-5-foot plates stacked in battered Mexican rail cars headed over the border, thanks to the exertions of immigrant laborers happy to have even low-wage jobs.

They come from little farms scattered across the Mexican countryside. They are willing and diligent workers, but unsophisticated, unaware of their rights and unable to speak English. Many in the scrapyards are working here legally. Many are not.

In the mornings, new arrivals stop in at the Oasis Cafe, on East Adams Street, next door to the Expreso Bus Station, where migrants from Monterrey and points farther south alight. The Oasis is the unofficial hiring hall for all the scrapyards in Brownsville.

Training here consists of watching the next guy. Precautions against asbestos or PCB exposure, or against fires or falls, are haphazard at best.

Pedro Rios, 65, a steel cutter for 23 years, said no one has ever talked to him about the health risks of the job. The men eat where they work, despite regulations requiring a separate lunchroom away from the fumes of burning lead paint.

The workers often lay a piece of painted steel plate on supports, put their tortillas on it, then heat it from beneath with their torches.

Another cutter, Orlando Saenz, shrugged off the hazards of ingesting lead. "All you have to do is eat a little chocolate," he said. "That'll keep you from getting lead poisoning."

The work force is uniformly Latino. Emilio Sanchez, from a prominent Mexican-American family, sees no puzzle in that. Sanchez owns the only cold-storage company in Brownsville equipped to handle the commercial shrimpers' catch, which gives him considerable clout in the port, and among his other business ventures he invests in merchant and Navy ships for scrap.

"The Hispanics are the best cutters, traditionally," he said. "It's the ethic. They're the best. We wouldn't use anyone else. I wouldn't do it any other way. It's not exploitation."

Rios scoffs at that. "The Hispanics can be abused. We have no choice," he said. "It's out of need we do this. I got this job because I don't know how to read or write. You could say this is a job for the dumb."

Elizondo, the union organizer, believes the shipbreaking industry flourishes here because of Washington's indifference to the Latino laborers of Brownsville.

"Why is the Navy dumping all these ships, this asbestos?" he asked. "Well, let's dump this on Brownsville. Let Jose take care of it."

-- Will Englund and Gary Cohn

The Subcommittee on Coast Guard & Maritime Transportation

Hearing March 18, 1998

Ship Scrapping Activities of the United States Coast Guard

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PURPOSE OF HEARING

The purpose of the hearing is to examine the current U.S. Government policies on scraping obsolete vessels of the U.S. Navy, the Coast Guard, and the U.S. Maritime Administration's National Defense Reserve Fleet. Specifically, the Subcommittee plans to examine the human health and environmental risks involved in the scrapping of these vessels in the U.S. and foreign courtries.

BACKGROUND

UNITED STATES NAVY AND MARITIME ADMINISTRATION DISPOSAL OF VESSELS

Currently, the U.S. Navy and the U.S. Maritime Administration (MARAD) have 185 ships awaiting scrapping. The Merchant Ship Sales Act of 1946 created a Government owned and administered National Defense Reserve Fleet (NDRF) of inactive but potentially militarily useful merchant ships. MARAD preserves and maintains the NDRF vessels. The National Maritime Heritage Act of 1994 directed MARAD to scrap all obsolete ships in the NDRF in a way which will maximize the return to the U.S. Government.

Traditionally, the Navy has scrapped its obsolete ships using private U.S. contractors. However, the Navy has always disposed of its own nuclear ships and submarines. The Navy scrapped hundreds of ships during the 1960s and 1970s, but did not scrap any ships during the 1980s since the Navy was increasing in size. The Navy reactivated its scrapping program in 1990 because of the downsizing of the active military forces. Twenty-five percent of the proceeds from the sale of the Navy's vessels at scrap go to the U.S. Treasury and seventy-five percent of the proceeds go to the Defense Logistics Agency's Defense Working Capital Fund.

Thirty Navy ships have been scrapped since 1990 under contracts which were awarded by the Defense Logistics Agency (DLA) of the Department of Defense. The DLA prepares solicitations, awards and administers scrapping contracts. Under current contracts, the Navy prepares ships for disposal. This process includes radiological decontamination of the ship, a survey of solid Polychlorinated Biphenyls (PCBs), an inventory of liquid PCBs, freon recovery, as well as removal of any fuel onboard. The DLA halted Navy ship sales after a ship scrapping operation in North Carolina was closed due to severe environmental and labor violations by the scrapyard's owner. (This case will be discussed later.)

Under the Merchant Marine Act of 1936, MARAD is authorized to sell obsolete vessels for scrap in

domestic and foreign markets. Between 1990 and 1994, MARAD sold 81 vessels for scrap. A single vessel was scrapped in the U.S., while the 80 remaining vessels were scrapped in Mexico, China, and India. The 81 vessels returned approximately $35 million to the U.S. Government. Under the National Maritime Heritage Act, MARAD deposits the proceeds from scrapped vessels in the Vessel Operations Revolving Fund. Fifty percent of the Fund is used for acquiring and maintaining useful reserve vessels, twenty-five percent is used for certain expenses of the State maritime academies and the U.S. Merchant Marine Academy, and twenty-five percent is used for the Department of the Interior National Maritime Heritage Grants program.

Typically, a ship scrapping company buys the rights to scrap the government ship and later sells the salvaged metal to recyclers. Seventeen domestic scrap yards have done Navy ship scrapping work since 1991.

Most vessels built before the 1970's contain hazardous materials including PCBs, asbestos, as well as large quantities of lead based paint. Because of environmental violations, the Navy has had to take back 20 ships from yards in North Carolina, Rhode Island and California. Legal action by the Federal Government and the State of North Carolina has recently resulted in the closure of a ship scrapping operation in North Carolina. Another case resulted in the conviction of a ship scrapping yard owner in Maryland.

Seawitch Salvage in Baltimore is currently scrapping the Navy air craft carrier USS CORAL SEA. The operation had been marked by fires, mishandling of asbestos and the dumping of oil in Baltimore harbor. Workers reported that they routinely handled asbestos without respirators, safety harnesses, or even gloves. Kerry L. Ellis, the owner of Seawitch Salvage, was convinced in Federal Court last May for mishandling asbestos and dumping debris, including oil, in the Patapsco River. Mr. Ellis was recently sentenced to two and one-half years in prison. Mr. Ellis and Seawitch were also fined $50,000 each. His son, Kerry R. Ellis, has taken over the USS CORAL SEA project. The project, which was planned to be completed in 15 months, is in its fifth year.

Wilmington Resources, Inc., and later Sigma Recycling, operated a ship scrapping complex in Wilmington, North Carolina, between 1994 and 1996. The operation involved the scrapping of 20 decommissioned U.S. Navy warships. The scrapping rights were awarded by the Defense Reutilization and Marketing Service (DRMS) of the Department of Defense's Defense Logistics Agency. Under the contracts with DRMS, the Navy retained title to the ships until scrapping operations were finished and the scrapping company was required to comply with all Federal, State, and local worker safety and environmental laws.

After numerous reports of possible violations of State and Federal laws, the North Carolina Department of Environment, Health, and Natural Resources, along with the U.S. Coast Guard, conducted a surprise inspection of the site on January 26, 1996. This inspection resulted in a lengthy investigation which demonstrated the violation of numerous State and Federal laws. Inspectors documented violations of the National Emission Standards for Hazardous Air Pollutants, the mishandling and storage of asbestos, voilations of the State's surface and ground water pollution laws, and the improper disposal of solid and hazardous wastes. A large area of soil was found to be contaminated by petroleum products, lead, and low levels of PCBs.

The State of North Carolina filed an action for a preliminary injunction against the scrapping operation on July 3, 1996, and on August 22, 1996, the scrapping company consented to an order granting the preliminary relief sought by the State. The company agreed to end ship scrapping operations, to hire a consultant to assess the environmental damage of the site, and to develop a plan to clean up the facility. Sigma Recycling was prohibited from continuing to cut or salvage any vessel in or over the State of North Carolina's waters. The Navy subsequently moved the remaining 12 vessels, which Sigma had been contracted to scrap, to other ports.

David Heeter, assistant state Attorney General for the North Carolina Department of Justice, reported that the Navy and DRMS inspected the scrapping operations in Wilmington and uncovered

violations of several laws. However, these Federal inspection reports were never forwarded to the agencies responsible for enforcing the laws.

Because of the growing problems with domestic ship scrappers, the Navy began considering scrapping its vessels overseas. The Environmental Protection Agency (EPA) stopped the Navy and MARAD from exporting vessels in 1994. The EPA decided that the export of a government ship for scrapping was the equivalent of distributing in commerce regulated quantities of PCBs, as defined in the Toxic Substances Control Act.

In 1996, MARAD began to add environmental factors to the award of domestic and foreign scrapping contracts. MARAD required bidders to submit information on environmental permitting and compliance issues for consideration in the awarding of scrapping contracts. In its most recent sale, MARAD evaluated the environmental information and compliance record provided by each bidder before considering the dollar amount of the bids. In addition, MARAD contacted Federal and State environmental regulatory agencies concerning the compliance records and conducted site visits to those bidders who were initially deemed qualified. Only those bidders who were deemed qualified from an environmental perspective were considered. While the bid was open to both foreign and domestic scrappers, MARAD awarded two ships to a domestic scrapper in Brownsville, Texas, and has conducted several follow up site visits.

The Navy reports that it has tightened its bidding procedures to exclude disreputable contractors and improve monitoring of scrap yards. The Navy has expanded its staff of ship scrapping inspectors from one to four. The Defense Reutilization and Marketing Service reports that since 1996, bidders on vessels to be scrapped by the Navy have been required to submit a proposal showing how they plan to dismantle a ship, how they will dispose of hazardous substances, how they will comply with health and safety requirements, and that they have the financial ability to complete a scrapping project. The Navy also reports that it meets with the regulatory agencies, such as the Environmental Protection Agency and the Department of Labor, which enforce Federal and state health, safety, and environmental laws, to help ensure that ship scrapping operations are operated properly.

Last year, the House passed H.R.1119, its version of the Department of Defense Authorization Act of 1998. Section 1021 of H.R.1119 exempted the Navy and MARAD from certain parts of the Toxic Substances Control Act and the Solid Waste Disposal Act under certain conditions. This section would have essentially voided EPA's decision to ban the export of Navy and NDRF vessels, which contain hazardous materials, for scrap as long as certain parts of the vessel containing PCBs are removed before the sale.

The Administration opposed the legislative provision which exempted Navy and MARAD vessels from the EPA export ban. Finally, a compromise was reached between the Administration, the House National Security Committee, and the Senate Armed Services Committee. Section 1026 of the final DOD Authorization Act of 1998 (P.L. 105-85) requires, that no later than March 1, 1998, EPA, MARAD, and the Navy submit a report to Congress on the implementation of the agreement between the agencies entitled "Export of Naval Vessels that May Contain Polychlorinated Biphenyls for Scrapping Outside U.S."

The Navy signed an agreement with the EPA on August 6, 1997, and MARAD signed an agreement with EPA on November 7, 1997, to formalize a process to remove liquid and readily accessible PCB's from obsolete vessels in the U.S., and to notify countries of import that ships containing hazardous materials are destined for scrapping in their yards. As a result, the PCBs most likely to result in human or environmental exposure will be removed before the vessels leave the United States, and the country of import will be informed about vessels which are about to be scrapped in their countries so that appropriate steps can be taken to enforce local environmental, health, and safety laws. Those PCBs that remain on the vessels would be of the type that the EPA's expected PCB rulemaking would allow to be disposed of in municipal landfills. MARAD argues that U.S. Government vessels destined for scrapping overseas will be far cleaner environmentally than similar

vessels scrapped by other countries or the private sector.

MARAD currently has 70 obsolete NDRF vessels. The yearly cost to maintain the NDRF ships in lay-up averages about $19,000 each. However, if these ships cannot be scrapped either domestically or overseas, MARAD reports a significant risk exists that as many as 14 of the oldest ships, which are in very poor condition, may sink. Estimates to dry-dock these vessels run as high as $800,000 per vessel. MARAD's reserve fleet sites at Fort Eustis, Virginia; Beaumont, Texas; and Benecia, California, are adjacent to environmentally sensitive estuaries.

The Navy further reports that its inactive fleet has increased by 82 percent since 1990 and that numerous additional ships are nearing the end of their service lives. The Navy estimates that it will cost $58 million over the next six years to manage surplus ships. The current inventory of 196 ships exceeds the Navy's berthing capacity. The Navy has decided to scrap 115 of these vessels which are surplus to its needs.

Even with agreement among the EPA, MARAD, and Navy to partially clean up these vessels before export, some critics remain opposed to these sales. Many critics site the terrible working conditions at ship scrapping yards in India, Pakistan and Bangladesh where most of the world's vessels are scrapped. Wages in the Indian yards start at $1.50 a day. There are few or no precautions for workers removing asbestos or other hazardous materials. For example, workers are seldom offered hard hats or safety harnesses. Some critics of the Federal Government's efforts to export these vessels believe that the Government should pay to have all the hazardous materials removed from these ships in the U.S.

Because of the continued criticism of its ship scrapping program, the U.S. Department of Defense has established the Department of Defense Interagency Ship Scrapping Review Panel. Under the leadership of the Assistant Deputy Under Secretary of Defense for Cleanup, the Panel's purpose is to review the Department of Navy and MARAD programs to scrap vessels and to make recommendations for the improvement of these programs. The Panel plans to review the processes and procedures in place for domestic as well as international ship scrapping. The Panel plans to look at information about the hazardous and toxic materials on scrapped vessels, the legal authorities for scrapping vessels, the criteria used to evaluate contractor proposals and bids, oversight of ship scrapping contractor operations, and relationships with occupational health, safety, and environmental regulators. The Panel will also review information related to EPA's prior decision to allow the export of non-liquid PCBs in vessels to be scrapped. The Panel is expected to render its recommendations by the end of March.

U.S. COAST GUARD DISPOSAL OF VESSELS

The Coast Guard reports that it prefers to dispose of decommissioned vessels by transferring them for continued use by state and local government jurisdictions under the Federal Property and Administrative Services Act, or to foreign countries under the Foreign Assistance Act. Most Coast Guard vessels are still in useful condition at decommissioning, although no longer suited to the Coast Guard's mission needs.

Prior to decommissioning, Coast Guard vessels are surveyed for the presence of PCBs, asbestos and other hazardous materials. These surveys have been conducted by experienced environmental, health, and safety personnel from the U.S. Coast Guard Yard in Curtis Bay, Maryland. Those vessels which are unsuitable for further use, or for which no acquisition interest is expressed, have their hazardous materials removed in the Coast Guard Yard. All of the PCB materials found to date are non-liquid, primarily wool felt and electrical cable. Most PCB materials are found behind metal sheeting and in overhead spaces, thus requiring the total removal of all internal equipment and furnishings down to the hull in order to properly remove all PCBs. After this work, the vessels are suitable only for scrap or are sunk offshore for reef-building.

The Coast Guard vessels which will be decommissioned in the foreseeable future range in size up to

180 feet. The Coast Guard reports that vessels this size are too small to interest commercial scrappers. PCB removals have been performed by Coast Guard Yard employees on two 82-foot and two 44-foot vessels. These employees have been given specific training on the hazards of the materials and the proper removal techniques. The Coast Guard Yard has a written protocol for these procedures, which are overseen by the Coast Guard Safety Office. All PCB waste is manifested as a hazardous waste and sent to approved disposal sites for burial or incineration. The State of Maryland Department of the Environment and EPA Region III have both recognized the Coast Guard Yard's success in these efforts.

It is anticipated that the removal of PCBs from vessels to be decommissioned in the foreseeable future will continue to be performed by Coast Guard Yard personnel. Those vessels which cannot be economically transferred to Curtis Bay will be handled either by a project-specific detachments from the Yard, or by local contract.

The Coast Guard further reports that the Yard may have limited capacity available to perform these services for Federal Government vessels other than those of the Coast Guard. The Yard's capabilities are restricted, however, by vessel size. The navigational approach to the Yard is restricted by passage through a bridge channel 145 feet wide, with water depth of 22 feet. Dry dock capacity also limits overall vessel length to 400 feet. The Yard would be available to perform removal services on non-Coast Guard vessels within these parameters on a reimbursable basis, as permitted by Yard workload limitations.

WITNESSES

PANEL I

The Honorable George Miller (CA)

PANEL II

David Heeter
Assistant Attorney General
North Carolina Department of Justice

E. Grey Lewis
former General Counsel
U.S. Navy

Michael Dunavant
Environmental and Legislative Affairs Manager
East Coast Division, Simsmetal America

PANEL III

Patricia A. Rivers
Assistant Deputy Under Secretary of Defense for Cleanup
Office of the Deputy Under Secretary of Defense for Environmental Security, U.S. Department of Defense

Accompanied by:

Joan M. Bondareff
Acting Deputy Maritime Administrator and Chief Counsel Maritime Administration, U.S. Department of Transportation

Captain James L. Hested
Commanding Officer

U.S. Coast Guard Yard

Captain Larry L. Hereth
Chief
Office of Oil and Hazardous Substance Response
U.S. Coast Guard

Michael M. Stahl
Deputy Assistant Administrator for the Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

Listing System Supported. Alter said the Malaysia meeting produced policy changes sought by U.S. industry. Companies support the adoption of the two-list system and an accompanying mechanism for reviewing and changing the classification of a waste appearing on either of the lists, he said.

"This was a milestone," Alter said. He called the listing system "a big advance" in international policy on hazardous waste trade. Adoption of the lists settled the largest objection U.S. companies had to ratification of the treaty—that it would bar U.S. exports of some materials controlled under the treaty, such as scrap metals used as raw materials in some developing countries.

Paul Hagen, an attorney with Beveridge & Diamond in Washington, said countries are expected to begin using the Basel Convention listing system by late 1998 to control international trade in hazardous wastes.

This may force some U.S. businesses involved in waste trade to take a hard look the pros and cons of the United States becoming a party to the convention, he told BNA.

Use of the lists may disrupt waste management practices of some U.S. companies with operations overseas that generate hazardous waste, according to Hagen.

A number of these businesses now ship their hazardous waste to the United States for treatment and disposal if there are no appropriate handling facilities locally.

But use of the list may mean shipments of List A materials to the United States would stop because Basel Convention partners are prohibited from trading those wastes with countries that have not ratified the deal, Hagen said.

Unsettled Issues. Alter said the Malaysia meeting provided little progress on other Basel Convention issues that could raise a red flag with U.S. industry, depending on how they develop. These include negotiation of a protocol on liability and development of guidelines on bilateral agreements on hazardous waste shipments, he said.

Article 11 of Basel Convention authorizes bilateral agreements on waste trade, including those under which a developing country agreed to accept hazardous wastes from an industrialized country. Some groups, including Greenpeace, have said the Basel Convention parties should declare that Article 11 agreements may not be used to circumvent the ban on waste shipments from OECD nations to non-OECD members.

No Position on Request. Alter said U.S. industry did not take a position on a request from Israel, Monaco, and Slovenia to be categorized with OECD nations for purposes of the waste shipment ban. Basel Convention partners decided not to reclassify countries until the ban enters into force. That will occur when three-quarters of the countries that are party to the convention ratify the ban.

The chamber views the classification of countries for purposes of the ban as "a political issue" for governments to decide, Alter said.

Federal Facilities

Recycling Industry Urges Military Not to Export Ships for Scrapping

Scrap recovery and recycling businesses, the Sierra Club, and three members of Congress urged the Department of Defense March 5 not to export obsolete military ships to foreign companies for dismantling.

Many of the 19 people who gave or submitted testimony at a public hearing sponsored by DOD and the Environmental Protection Agency were concerned about the U.S. military's responsibility for worker safety and environmental protection in the United States and abroad.

The interagency panel on ship scrapping, created in December 1997, solicited testimony from the public for a report due March 31 on military and contractor practices at shipyards where vessels are dismantled and sold for scrap.

The review panel was created as the military reconsiders a new policy to allow DOD vessels to be exported for "shipbreaking." The review was prompted by a series of news articles about pollution problems and worker safety issues at shipyards in the United States and in India.

Most of the speakers suggested ways to maintain and rebuild the ship scrapping industry in the United States. Two often-repeated points were that the Defense Department should not export its 115 obsolete vessels for dismantling and that it should take more responsibility for the vessels it sells.

Exports Hurt Domestic Business. Robin Weiner, executive director of the Institute of Scrap Recycling Inc., testified that the U.S. ship dismantling industry has been hurt in the last 20 years by old merchant and commercial ships being exported, the need to comply with environmental and worker safety laws, and the decrease in price for scrap in the United States.

In the 1970s, about 30 shipbreakers were in business, but today there are only about six companies actively engaged in the industry, Weiner said.

One of the problems is that the U.S. government and private ship companies "sell to the highest bidder" with absolutely no consideration for worker safety and environmental protection rules with which the highest bidder will have to comply, she said. The highest bidders often are foreign companies with low labor costs or rogue shipbreakers in the United States, she said.

Weiner and others strongly urged DOD to ensure that the bidders submit plans to show how they will comply with worker safety and environmental protection regulations. This would put domestic shipbreakers on a more competitive level, she said.

Some resource recovery firms testified that they had to get out of the ship scrapping business because it is not profitable after paying for hazardous waste removal and disposal.

Mike Dunavant, environmental and legislative affairs manager for the eastern United States of Simsmetal America, Richmond, Va., said the cost of remediation of hazardous materials often exceeded the salable value of the scrap recovered from ships. "We did it right, and we

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lost money," Dunavant said. "We're not interested in doing it again."

Rep. George Miller (D-Calif), who submitted a written statement, acknowledged the often thin profit margin for domestic scrapping. "It is entirely possible that the government may have to cover some of the costs associated with the environmental remediation," Miller suggested.

Ross Vincent of the Sierra Club told the panel that exporting vessels also creates a foreign policy dilemma for the United States and parties to the Basel Convention.

The United States has not ratified the Basel Convention, which controls the export of hazardous waste from industrialized countries to developing countries. Therefore, the U.S. government is not bound by the treaty's provisions.

But exporting ships laden with PCBs, oil, lead, and asbestos is "inconsistent" with the U.S. policy to follow substantial provisions of Basel, Vincent said. "U.S. facilities should be scrapped in U.S. facilities . . . but not half way around the globe."

Strip Before Exporting. Not everyone agreed that exporting ships should not be an option for DOD's obsolete ships.

Michael Deal of Resource Recovery International Group, Fort Lauderdale, Fla., said lower labor costs are not the reason foreign countries are paying higher prices for obsolete ships.

Some developing countries, such as India, have a much higher demand for scrap metal than in the United States, Deal said. Selling intact obsolete ships is much more cost effective than hauling scrap metal as freight to foreign countries, he said.

"These ships represent a major national resource" that will help pay down the national debt, Deal said, in arguing in favor of export. He added that the ships should be stripped of all asbestos, PCBs, and other toxic substances before being exported. His company does that kind of work.

Another such company testified. HELPER Inc., based in Madison, S.D., is the only company in the country that has EPA approval to remove PCBs and asbestos from the cable and wire found in Navy ships, according to its president, Daniel Pardy.

Pardy told the panel that all PCBs and asbestos should be removed before being sent for scrapping outside the United States. The Navy should not export ships for scrapping that have PCBs still aboard, he said.

"Those wastes should be disposed in our borders," Pardy said. He told of high levels of PCBs often found on those ships, up to levels of 4,000 parts per million. EPA regulations prohibit the export of any items containing more than 50 ppm of PCBs, he noted.

The Sierra Club's Vincent and Rep. Miller both decried EPA's recent agreements with the Navy and the Department of Transportation's Maritime Administration that allow ships to be exported with some levels of PCBs still aboard.

Miller said he was "astounded to discover" that EPA had agreed to lift its ban on PCB exports for the Navy and the Maritime Administration specifically for ship scrapping.

The two agreements require "readily accessible" PCBs to be removed from obsolete ships, but in many cases, the bulk of PCBs are left on board, Miller said. In addition, the agreements ignore chromates, lead, asbestos, and other substances that can pose hazards to workers and the environment.

DOD Needs to Provide Blueprints. Ship dismantling companies and recycling businesses urged the panel to force DOD to be more cooperative with the shipbreakers by giving them basic information about the ship's design and location of toxic substances.

Kerry Richard Ellis, managing member of Patapsco Recycling in Baltimore, told the panel that in the dismantling of six vessels with which he had been involved, the Navy never provided a blueprint of the ship. That basic information is needed to determine a strategy for taking apart the ship, as well as for identifying asbestos, oils, lead, and polychlorinated biphenyls on board.

Ellis said the Defense Department does not give shipbreakers information on hazardous materials aboard the ships because of liability concerns. Yet without that information, shipbreakers have little way of complying with reporting requirements of environmental laws, Ellis said.

By Amy Porter

Water Pollution

Drinking Water

Prioritization of Contaminants on CCL Continues as EPA Defines Next Steps

Working from a recently developed list of known drinking water contaminants, the Environmental Protection Agency on March 2 identified 20 contaminants for possible national regulation and set forth its research priorities for another 40 substances (63 FR 10274).

The latest groupings were drawn from a final Contaminant Candidate List issued in early February and are intended to further guide the agency in its approach to regulation.

The final list included 50 chemical and 10 microbial substances (28 ER 2119). Contaminants on the list are those that occur or are anticipated to occur in public water systems. They will be considered for a variety of regulatory options, including formal rule-makings or lesser actions such as health advisories, guidance, and research.

In its latest groupings, EPA divided the Contaminant Candidate List into five categories to represent the priorities for each substance.

Of the 60 listed substances, 20 were given "regulatory determination priorities." The other 40 substances were given various combinations of "research priorities" and/or "occurrence priorities."

EPA must make regulatory determinations on at least five of the contaminants by 2001, and determinations on five more every five years thereafter. The first five determinations will be made on contaminants listed in the regulatory category, EPA said.

DoD Interagency Ship Scrapping Review Panel

The Interagency Ship Scrapping Review Panel will complete their work on March 31. The Panel has decided to extend the interagency review process through the Congressional recess period. The report will be released on April 20th when Congress returns.

- News Release: DoD Calls For Public Comment on Ship Scrapping Programs
- Factsheet: US DoD Shipbreaking Program and Practices
- Charter for the DoD Interagency Ship Scrapping Review Panel
- Interagency Ship Scrapping Review Panel Roster
- Ship Scrapping Programs Public Meeting Summary, 5 March 1998
- List of Attendees, Public Meeting, 5 March 1998

- Testimony's before the House Transportation and Infrastructure Committee, Subcommittee on Coast Guard and Maritime Transportation, March 18, 1998
  - Patricia A. Rivers, Assistant Deputy Under Secretary of Defense (Environmental Cleanup)
  - Honorable George Miller
  - David G. Heeter, Assistant Attorney General, N.C. Department of Justice
  - Wayne T. Gilchrest, Congressman
  - Mike Dunavant, Environmental & Legislative Affairs Manager, East Coast Division, Simsmetal America
  - Robin K. Wiener, Executive Director, Institute of Scrap Recycling

- Ship Scrapping Public Discussion Forum
  - Questions to Help Guide Feedback to the Panel
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February 26, 1998

FACT SHEET

U.S. DEPARTMENT OF DEFENSE SHIP BREAKING PROGRAM AND PRACTICES

ISSUE: The Department of Defense (DoD) has been criticized for implementing a domestic ship breaking and disposal program with companies that are suspected of violating environmental, worker health and safety requirements and established practices, and the practice of selling vessels for scrap in the export market has been called into question. DoD officials have created a panel of federal environmental, safety and occupational health experts to review the DoD program and a similar program administered by the U.S. Maritime Administration (MARAD). The Panel will issue a report by March 1998 which will contain an assessment of the programs with recommendations, if any, for further action.

DoD and MARAD continue to contract for domestic ship disposal subject to increased performance requirements, especially in the areas of environment and safety, heightened scrutiny, and significant oversight. However, the Navy and MARAD have suspended any sales of vessels for scrapping overseas until the Panel has completed its review.

BACKGROUND: The Navy is the Military Department within DoD that has the primary need for the breaking and disposal of vessels. (The Army and Air Force also have some water craft.) Historically, the Navy has relied on the private sector to break up and dispose of inactive ships. Hundreds of ships were scrapped during the 1960's and 1970's. No ships were scrapped during the 1980's because the Navy was increasing in size. Then in 1991, the Navy reactivated its scrapping program because of the downsizing of the active military forces.

MARAD is responsible for the maintenance and operation of the National Defense Reserve Fleet (NDRF). As these vessels become obsolete, they are sold for scrap in both foreign and domestic markets. In addition, MARAD is the disposal agent for the Federal Government of all vessels of 1500 gross tons that are capable of conversion to merchant use.

Many older vessels contain Polychlorinated Biphenyls (PCBs) in various shipboard components that must be disposed of according to specific legal requirements set forth under the Toxic Substances Control Act (TSCA). The U.S. Environmental Protection Agency (EPA) currently has a "closed border" policy that prohibits the export for disposal of PCB articles with PCB concentrations of 50 parts per million (ppm) or greater. The Navy and MARAD entered into agreements with the EPA in August and November of 1997 respectively that would allow the export of vessels after PCB liquids and readily removable solid PCBs are removed. The agreements, which were entered into as an interim measure until EPA's proposed export rule is finalized, also require a two stage notification to an importing country about the nature of the remaining PCBs on board, and a vessel specific notification before a vessel is exported to that country. No ships have been exported under these agreements and Navy and MARAD have agreed to not to use the agreements pending the outcome of the Panel's review.

CONTRACTING FOR SALE: The Defense Logistics Agency (DLA) is the organization in DoD that drafts and executes the sales contracts for ship breaking and disposal. DLA does this because, as a support command within DoD, they serve as the disposal agent for the Department of the Navy.

Presently, the Navy has 115 surplus vessels. Ships are ready for disposal because they are obsolete and no longer meet the Navy's military needs. The Navy spends approximately $17 million annually on storage and maintenance of inactive vessels, including its retention of assets and other vessels placed on hold for Foreign Military Sale or donation. Navy vessel storage facilities are already at 125% of capacity, creating berthing problems and interfering with the Navy's ability to support active ships. Twenty five percent of the proceeds from the sale of Navy's vessels go to the U.S.

Treasury as general receipts and seventy five percent of the proceeds go to the Defense Logistics Agency's Defense Working Capital Fund.

DoD and other government vessels of 1500 gross tons that are of merchant type or capable of conversion to merchant use are transferred to MARAD and placed in the NDRF. Currently, MARAD has 70 obsolete vessels in the NDRF that are ready for scrapping. Proceeds from the sale of vessels from the NDRF are deposited in the Vessel Operations Revolving Fund and divided between three programs: 1) acquisition, maintenance, repair and improvement of the NDRF (50%); 2) expenses of the State Maritime Academies and Kings Point Merchant Marine Academy (25%); and 3) funding of the National Maritime Heritage Grants Program (25%). The National Maritime Heritage Act of 1994 requires that MARAD dispose of all obsolete vessels currently in the NDRF by 2001 in a manner that maximizes the return to the United States.

THE SCRAPPING PROCESS: Several steps are involved in disposing of ships. The Navy removes ozone depleting substances, bulk containerized hazardous materials, accessible fuses, mercury containing gauges and indicators, lube oil from tanks, and hydraulic oil. MARAD removes bulk and containerized hazardous materials and may have removed ozone depleting substances, accessible fuses, mercury containing gauges and indicators, lube oil from tanks and hydraulic oil. Additional environmental work may be performed, such as removing low-level radium sources and sampling materials for Non-Liquid PCBs and water tanks for contamination.

DoD's current contracting procedures for sale for scrapping involve a two-step approach. Bidders are provided environmental survey and sampling information and are required to inspect the ship. The first step in the process requires contractors to create technical plans to demonstrate their ability to scrap vessels and to comply with all environmental and safety laws. A team of DLA and Navy representatives evaluates the technical proposals. In the second step, bids are accepted only from contractors who have demonstrated that they can perform the work in an environmentally responsible and safe manner. MARAD uses a similar contracting process that requires the submission of a technical compliance plan; however, the technical plan and bid are submitted at one time.

After a contract is awarded, the government monitors the ship scrapping contractor's operations until the ship is completely scrapped. Recent changes in DoD policy, created through the FY98 DoD Authorization Act, allow DoD to award a contract that is most advantageous to the Government (taking into account price and such other factors as the Secretary determines appropriate).

THE PANEL: The Under Secretary of Defense (Acquisition and Technology) has established a federal interagency panel to review the ship scrapping situation. It was established on December 24, 1997, and will terminate by March 31, 1998. A list of panel members follows. In addition to the lead representative, each agency will have a primary liaison, a representative from their congressional office, and assistance from counsel and other staff, as appropriate. DoD will also have representatives from the Office of the Secretary of Defense's Director of Defense Procurement and General Counsel. Representatives from other functional areas of DoD or other Federal organizations may be invited to participate as needed.

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